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ABSTRACT

This document comprises 48 charts presenting data on the status of health care in the United States. The charts are organized into six groups concerned with: (1) people, health, and health care resources; (2) the health of the newest generation; (3) the AIDS (Acquired Immune Deficiency Syndrome) epidemic; (4) substance abuse; (5) chronic illness and disability; and (6) health care expenditures. The charts are accompanied by brief summarizing narratives, information on data sources, and highlighted data facts. Sample chart topics are as follows: population by age and race, 1950-1989; poverty; leading causes of death; use of physician services; hospital beds; nursing home beds; births and infant deaths; costs of low birthweight; the evolving AIDS epidemic; the Federal response to AIDS; alcohol, cigarette, and cocaine use; paying for substance abuse treatment; people with chronic conditions; people with disabilities; days of illness and disability; living with disabilities; chronic mental illnesses; disability and health insurance; health expenditures in the U.S. and abroad; the medical price-volume interaction; the uninsured; and the burden of health expenditures. Only two charts deal specifically with education: #6 "Medical School Applicants, Enrollees and Graduates, Class of 1989, by Race/Ethnicity" (p. 12-13) and #9 "Active Registered Nurses, by Level of Nursing Education, 1972, 1980, 1988" (p. 18-19). Additional sources of information are listed after each section. (DB)

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CHALLENGES IN HEALTH CARE

A CHARTBOOK PERSPECTIVE 1991

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CHALLENGES IN HEALTH CARE

A CHARTBOOK PERSPECTIVE 1991

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An even larger task was the review of the text and charts. A few of our expert and lay reviewers examined every set. Additional reviewers were called in to advise on their areas of specialty. Chart and text reviewers included several people already mentioned, as well as Mady Chalk, D. Peter Drotman, Mark S. Eberhardt, Jeffrey E. Harris, Henrick J. Harwood, Carol J. R. Hogue, Katharine R. Levit, Ronald W. Manderscheid, James C. Morford, John D. Piette, Dorothy P. Rice, Miles F. Shore, Christy Patchin-Spunt and Daniel Zwick. They provided excellent advice, helping us balance our two principal goals: scientific accuracy and clarity.

During the final review of the chartbook text, we were greatly saddened by the sudden death of a friend who kept us out of many statistical thickets, Joel Kleinman. He is missed.

Dianne C. Barker
Andrea Kabcenell
Victoria Weisfeld

PREFACE

IMPROVING THE health and health care of the American people is the mission of the Robert Wood Johnson Foundation. As a national philanthropy, the Foundation supports service, research, training and a range of other projects that we hope will have an impact beyond our grantees' efforts: New models of care are tested so that others may adopt the most promising ones; health care leaders are trained so that they may discover new approaches and, in turn, influence the next generation.

We hope also that the information gained from Foundation-funded efforts will influence in a positive way health policy at the local, state and national levels. Because we believe that the best policy decisions — no matter how complicated the problems or pressing the circumstances — are made with the participation of a well informed public, we try to inform the public about these issues through various means.

Policymaking takes place on many levels, with the participation of many people — business and community leaders, legislators, health professionals, interest group representatives and voters. All have a role to play. Through the publication of this chartbook, the Foundation hopes to strengthen the ability of those participants to play effective roles in the decision-making process, by arming them with simple, understandable information on the health care system and the major problems it faces.

We are well aware that health data are often complex, and our goal is to offer simple graphic presentations of some of the most important data, accompanied by brief written explanations to clarify and amplify the charts.

This book has six sections. The first provides general information on the health of Americans and on the health care resources available to us. The next four sections are devoted to specific important health problems: infant mortality and low birthweight, AIDS, substance abuse and the special needs of people with chronic health conditions. These topics were

selected because of their impact on the health of Americans and on the health care system. In each of these four sections, we show who is affected by the problem, how the health care system responds and — if possible — the financial implications of this response. The last section describes the way we pay the U.S. health care bill.

With the charts, we present information sources, so that curious readers can delve further into a particular issue. We hope that these sources will inspire further inquiry, since, in truth, each chart can present only a small amount of available data.

In producing this chartbook, we learned some difficult lessons about the availability of high quality, timely information. Although for each chart we tried to present the best data available, in some cases, the data presented are old because nothing more recent is available. In many cases, we sought up-to-date information on an issue, but could find nothing credible enough to include. In cases where we doubted the objectivity of some data, we excluded it. These major gaps in health information limit policymakers' ability to make sound policy decisions. A summary of the state of U.S. health data follows.

We hope this chartbook will serve as a helpful resource, and we encourage readers who use the chartbook to share its information with others. The book was designed to make photocopying easy. If you have comments or suggestions, we would like to hear from you, as we decide whether subsequent editions would be useful. Please use the reply card in the back of this volume to tell us what you think.

Steven A. Schroeder

Steven A. Schroeder, MD
President
July 1991

DATA NOTES

THIS NATION produces a truly impressive amount of health information. Nevertheless, in the course of preparing this chartbook, a number of general problems with U.S. health data became apparent. These problems result from the kind of information that is collected, the way information is collected, when it is collected and how it is organized and made accessible. These problems are manifest in the specific data limitations of the charts presented and, more important, in the charts you would like to see here but will not, because credible information on the topic does not exist. The public's awareness of these problems and interest in procuring better data can only help the situation.

What are the problems?

First, the United States has no integrated, overall system of health information. The many different sources of data that had to be used to prepare this chartbook illustrate that point clearly. In fact, our national health statistics system mirrors our health care delivery system: It is decentralized, uncoordinated and depends on numerous public and private organizations to collect and disseminate information. They use many methods and have many purposes. Given this, following trends over time or linking important data sets can be difficult, if not impossible.

Second, with few exceptions, existing information about the health and health care of the American people is heavily oriented toward describing the organizations that deliver and pay for health care services and people's use of those services. While these data are necessary, they reflect only one small part of health care. Certainly, they leave us to wonder about the health of people who are not using the system.

Third, even when data about health and health care are produced, too often they are not easily accessible. When private organizations — such as insurance companies or trade associations — collect information, they may not make it public; in fact, much health information is not disseminated widely or well. Some kinds of data may be inaccessible in order to protect the confidentiality of individuals or institutions.

Fourth, the information that is available and accessible often is so old that it is no longer relevant. In part, this problem occurs when studies or surveys are repeated infrequently or not at all. The problem also arises because of the time required to collect, organize, analyze and disseminate statistical information. Generally, the nation has put too few resources into the quick and effective dissemination of information that is collected.

In summary, our nation's policymakers — in government and institutions — as well as the public at large need sound health care information in order to make and support good policy decisions and to assess their impact over time. We spend $604 billion a year on our nation's health care system, and we need to know whether these funds are used well. That requires collecting basic information on the performance of the system and its impact on the health of Americans.

New data on health and the health care system are constantly being released. If you take up this book well after publication, we encourage you to seek the most up-to-date data from the sources cited. If it cannot be produced, ask why not.

While compiling data for this book, we found the following topics to present the largest data gaps:

Health of minority groups
Children's health
Use of non-hospital services
Costs for an episode of illness
Consequences of illness
Mental health problems and services

About the terms used in this chartbook

The labels used in this chartbook for population groups, risk groups and health problems are those used by the original data sources. In some cases, these labels — ethnic and racial identities are a good example — reflect old values. We adopted this approach, despite our desire to be sensitive to changing preferences, because of the lack of consensus about which terms are preferred and to avoid potential confusion when people go back to the original data source to learn more about an issue.

One notable difficulty is that data collectors have changed the way the Latino population is identified in various databases. The data used in these charts were collected in two ways: One method counts Hispanics separately from whites and blacks, so the major racial/ethnic groups can be accurately called white non-Hispanic, black non-Hispanic, and Hispanic; the second method does not identify the Latino population separately, so that these groups must be called white and black, with the understanding that a certain (unknown) portion of each is Hispanic.

PEOPLE, HEALTH & HEALTH CARE RESOURCES

FAST FACTS

◆ Americans, on average, live 75 years.

◆ Whites, on average, live 4.4 years longer than blacks.

◆ Nationwide, 13 people out of every 100 live in poverty.

◆ The five leading causes of death are heart and circulatory problems, cancer, stroke, unintentional injuries and respiratory problems.

◆ Nearly 10 percent of Americans say their health is only fair or poor.

◆ The United States had one physician for every 420 people in 1988, compared to one for every 641 in 1970.

◆ There was one active registered nurse for every 148 Americans in 1988.

The Changing Population

THE 1989 U.S. population of nearly 250 million was 84.2 percent white, 12.3 percent black, 2.8 percent Asian and Pacific Islander, and 0.7 percent Native American and Alaska Native. Included in these racial groups were the 8.3 percent of the population who considered themselves Hispanic, who may belong to any of the racial groups, but most of whom are white.

Through the 1980s, the total population grew about one percent each year, with the largest annual increase (3.9 percent) among the group ages 35 to 44, the people born at the beginning of the baby boom. The next largest annual increase (3.3 percent) was among those 85 and older. These two facts together — the large number of people in their middle years and increasing longevity — lead to predictions that, by 2030, when the baby boom population is between ages 66 and 84, 22 percent of Americans will be 65 or older, compared to 12 percent in 1989.

This national pattern of growth best describes the white, non-Hispanic population, who are in the majority. Growth rates and age distributions in the black and Hispanic populations are quite different. All these patterns have implications for the health care system, because age and — to a lesser extent — race/ethnicity can affect the types of health services that are needed.

The black and Hispanic populations are growing faster than the white population. Between 1980 and 1989, the black population increased an average of 1.5 percent each year — almost twice the annual 0.8 percent growth rate of the white population. The Hispanic population increased 3.7 percent per year throughout the 1980s.

While the middle-years' population bulge is also evident among blacks and Hispanics, these groups have a higher proportion of children and a smaller proportion of older adults than the white population.

In 1989, children under five accounted for 11 percent of the Hispanic population, nine percent of the black population and seven percent of the white population; children ages 5 to 13 accounted for 19 percent of the Hispanic population and 18 percent of the black population, compared to 13 percent of the white population.

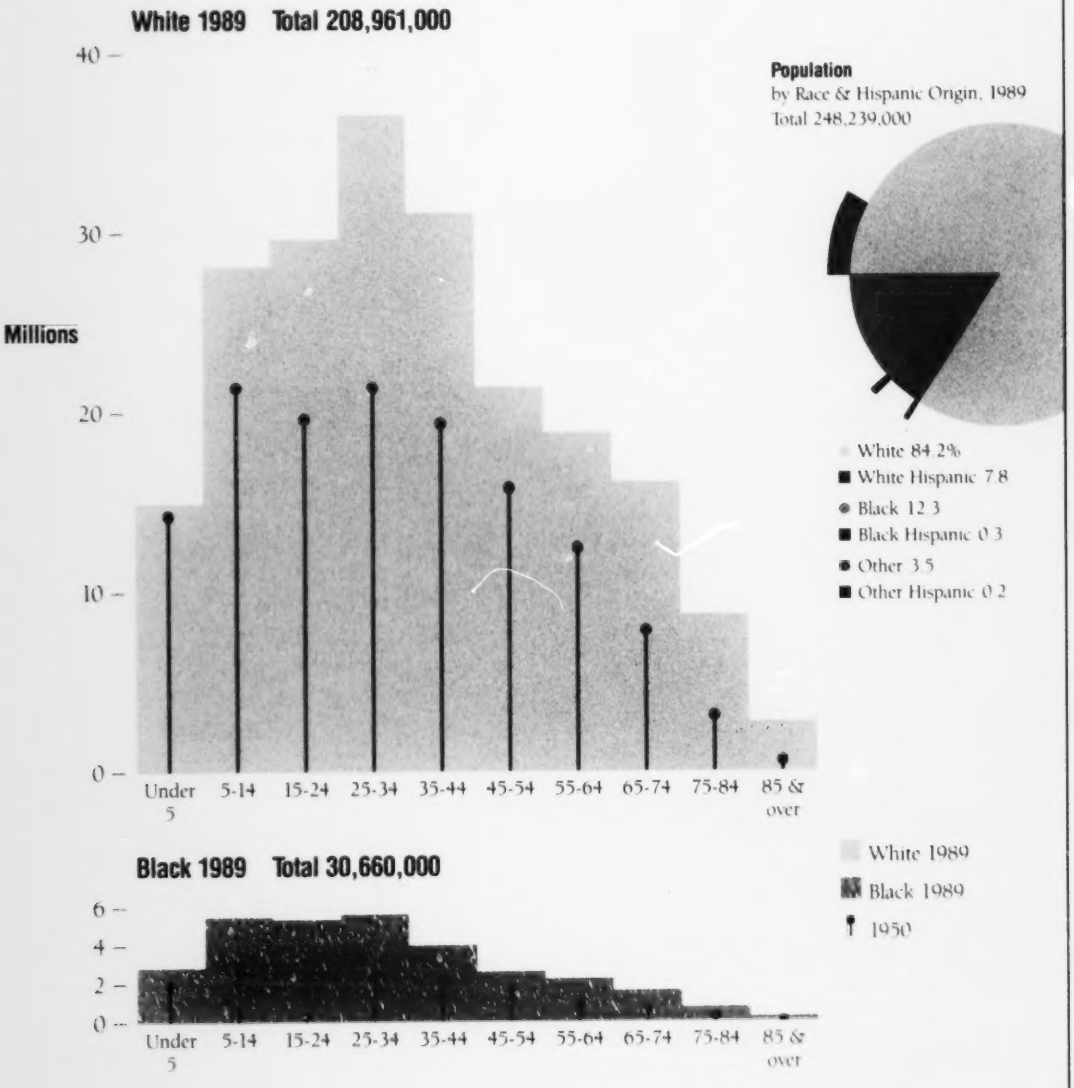
Several factors contribute to the smaller proportion of older adults in the black and Hispanic populations: the shorter life expectancy of black males; the youthfulness of most Hispanic immigrants; and higher birth rates in these groups.

NOTES

The total resident U.S. population was 249,605,000 as of January 1, 1990. This total excludes Armed Forces and other U.S. citizens living overseas.

The "baby boom" population was born between 1946 and 1964.

1. Population of the United States
by Age and Race, 1950 and 1989



SOURCES

1950 data: US Bureau of the Census. *U.S. Census of Population: 1980.* Vol. I, Characteristics of the Population, Chapter B, Part I, U.S. Summary. Washington DC. PC80-1-B1, 1983. Table 45, pp. 1-42 and 1-43.

1989 data: US Bureau of the Census. *U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1989.* Current Population Reports, Series P-25, No. 1057. Washington DC. 1990. Table 2, p. 12.

NOTE

Population data are estimated except during census years, when the population is counted.

Life Expectancy

AN AMERICAN baby born in 1988 can be expected to live, on average, nearly 75 years — a dramatic improvement over the 47-year life expectancy of people born in 1900.

One reason that life expectancy was so short in the early 1900s is that infant mortality was high. During the first half of this century, life expectancy lengthened mostly because of reductions in deaths from infectious diseases during infancy and childhood. More recent gains in life expectancy, however, have come from prolonging life in middle-aged and older people, through the prevention and treatment of chronic and acute conditions.

While average longevity has increased, the chart on the opposite page shows that average life expectancy varies considerably for different population groups. White women have the longest life expectancy (78.9 years), and black men have the shortest (64.9 years).

Black women fare much better than black men and slightly better than white men: The average life expectancy for a black woman born in 1988 is 73.4 years — more than eight years longer than for a black man and more than a year longer than for a white man (72.3).

Why black Americans have a shorter life expectancy is not entirely clear. What appears to be a racial difference in life expectancy may instead be the result of a combination of socioeconomic forces — like poverty and lack of health care — and a greater risk for disease and fatal injury, resulting from such varied factors as cigarette smoking, high blood pressure and exposure to hazardous occupations and violence.

If public health programs directed at high-risk groups could effectively address the major preventable causes of death — homicide, heart disease, unintentional injuries, AIDS and certain types of cancer — the overall life expectancy of Americans probably would increase substantially. In fact, one of the main purposes of the U.S. Public Health Service's new health promotion and disease prevention goals for the nation is to reduce racial and ethnic disparities in health status, including life expectancy.

Average life expectancy at birth

1900	47.3 years
1950	68.2
1975	72.6
1988	74.9

Life Expectancy

2. Life Expectancy at Birth
by Race and Gender, 1988

SOURCE
US National Center for Health Statistics. *Advance Report of Final Mortality Statistics, 1988.* Monthly Vital Statistics Report, Vol. 39, No. 7, Supplement. Hyattsville MD. DHHS Pub. No. (PHS)91-1120, 1990. Table 4, p. 16.

5

Poverty

THE POVERTY rate in the United States since the 1960s reflects fluctuations in the nation's economy, as well as federal policies. The chart shows the steep drop in the poverty rate following the mid-1960s' War on Poverty and the further declines that occurred during economic boom cycles in the 1970s. Yet, in the 1980s — generally a period of economic expansion — we see a rise in poverty, which is attributed to a recession early in the decade, a decline in manufacturing jobs, shrinking federal programs that helped people on the brink of poverty and a greater number of households headed by women than at any other time in our history.

Twelve percent of people ages 65 and over — one in eight — live below the federal poverty level. A greater proportion of elderly than non-elderly Americans are near-poor, with incomes between 100 percent and 125 percent of the poverty threshold. Historically, the elderly were hardest hit by poverty, because they were the most likely to be disabled and without work or income. In more recent times, improved retirement plans, Social Security, Medicare and other programs all have helped improve the financial status of people 65 and older.

In 1974, the poverty rate among children under 18 began to surpass the poverty rate among the elderly and now exceeds it by a significant margin. About 20 percent of all children — one in five — live in poverty, and 44 percent of black children do.

In 1988, 31.6 percent of blacks lived below the federal poverty level, as did 26.8 percent of Hispanics and 10.1 percent of whites. Poverty is three times more common among blacks than whites, mainly because more than half of black families are headed by unmarried women, often with young children. Families headed by women tend to be poorer because women may receive lower wages than men in comparable positions, have fewer chances for advancement, have less education and, therefore, lack skills for higher-paying jobs, have child-care responsibilities that limit their opportunity to work, or do not receive adequate — or any — child support payments.

Poverty is less common among people with more education. In 1988, 20.8 percent of householders who had not completed high school were poor, compared to 3.5 percent of those who had completed one or more years of college.

NOTE

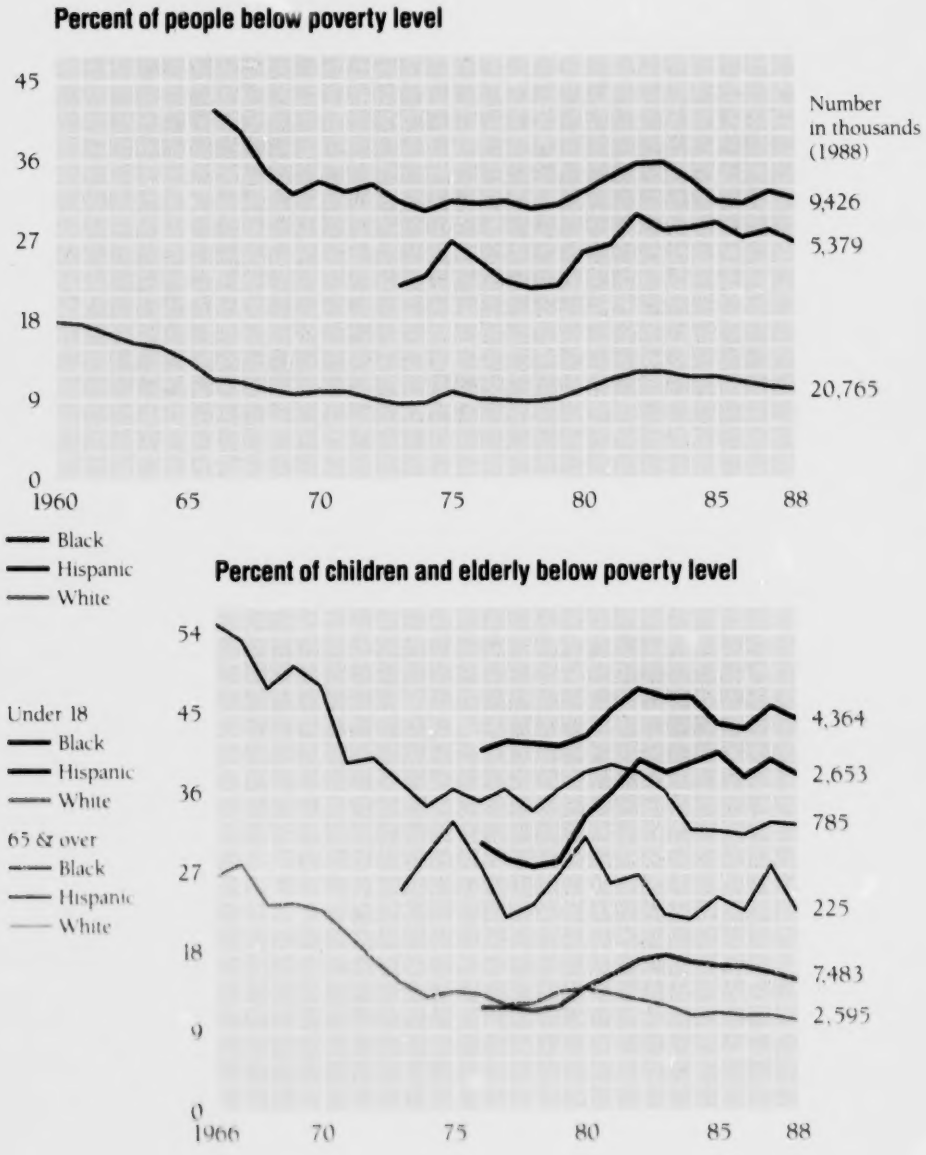
Federal statistics classify as poor only those families with incomes below the federal poverty threshold. The poverty threshold varies according to family size, and each year it is adjusted for inflation. For example, the 1988 poverty threshold for a family of four was $12,092. (The median income for households of all sizes was $27,230 that year.) Believing the thresholds are too conservative, some analysts classify people with incomes up to 125, 150 or even 200 percent of federal poverty thresholds as "near-poor."

Federal poverty thresholds

Household size	*1968*	*1988*
One person	$1,742	$6,024
Two	$2,242	$7,704
Four	$3,531	$12,092
Seven	$5,722	$18,248

3. Poverty

by Age, Race and Hispanic Origin, 1960-1988



SOURCE

US Bureau of the Census. *Money Income and Poverty Status in the United States: 1988*. Current Population Reports, Series P-60, No. 166. Washington DC. 1989. Table 18, pp. 58-59, and Table 19, pp. 60-61.

NOTE

People of Hispanic origin may be of any race.

Leading Causes of Death

THE FIVE leading causes of death in the United States in 1987 were heart disease, cancer, stroke, unintentional injuries (especially motor vehicle injuries, fires, falls and drownings) and respiratory problems. Heart disease, cancer and stroke were responsible for two-thirds of the nation's 2.1 million deaths that year. Unintentional injuries and respiratory problems were each responsible for around four percent of total deaths.

Leading causes of death differ markedly according to age. For instance, heart disease, cancer and stroke are the three leading causes of death only among Americans ages 45 and older. Unintentional injuries rank first as a cause of death for those ages 5 to 44, and in more recent years AIDS deaths have increased rapidly in the under-45 age group. Perinatal events — such as birth injury and respiratory distress syndrome — are the leading cause of death among children under five.

Remember, when looking at the chart on the opposite page, that the death *rate* is much higher in the 45 to 64 and the 65 and over age groups, compared with younger groups, so that the total *number* of deaths is larger at older ages.

In 1987, heart and circulatory diseases were the number one cause of death in the 65 and over age group, although it was responsible for a smaller proportion of total deaths than in 1960. The death rate due to these disorders declined substantially in the 45 to 64 age group between 1960 and 1987, while the proportion of deaths from cancer increased.

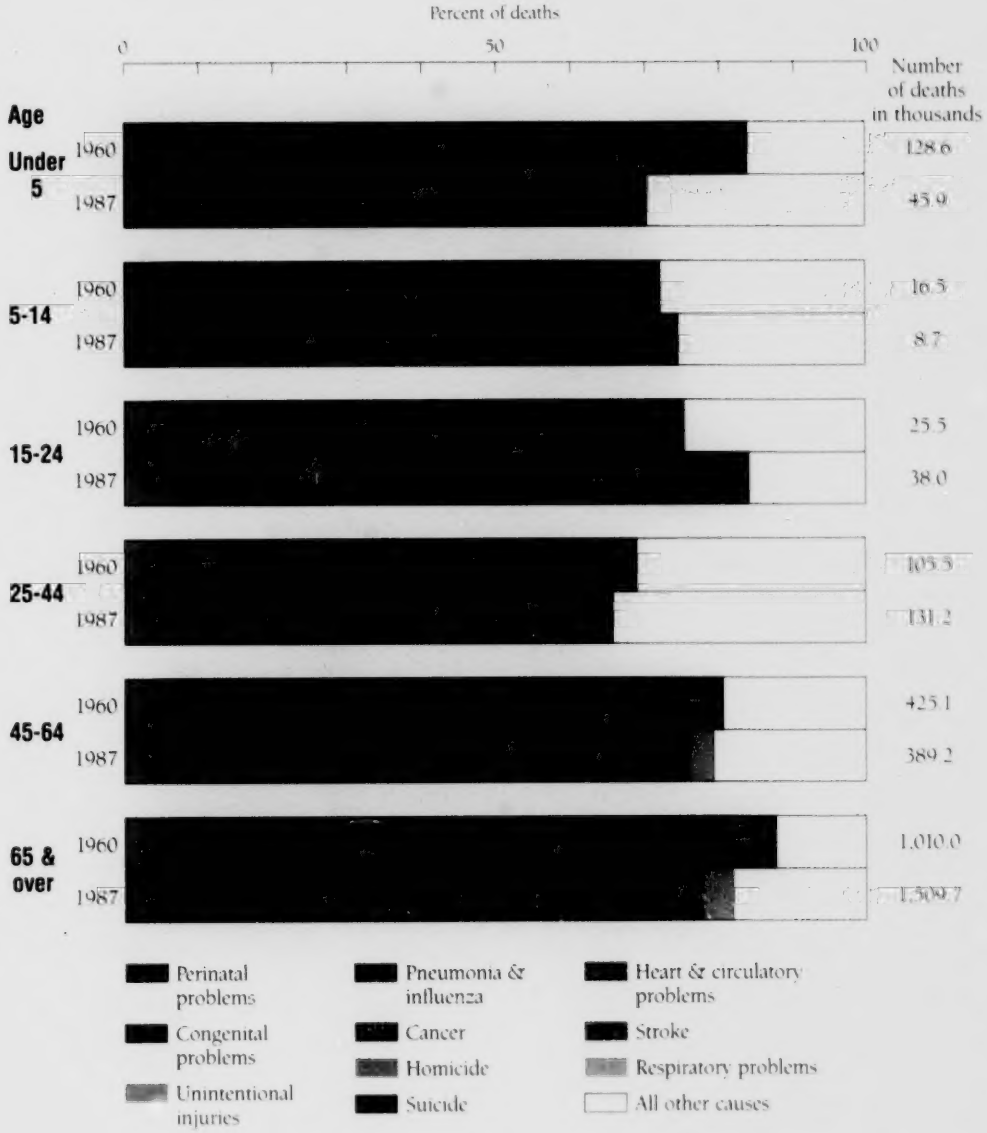
Respiratory problems — principally emphysema, chronic obstructive pulmonary disease, bronchitis and asthma — have emerged as one of the five leading causes of death, due in large part to cigarette smoking and occupational and environmental exposures. Respiratory problems became a rankable cause of death in 1979 and are one of the few leading causes that have steadily increased since 1950.

Number of deaths — 1987

Heart & circulatory problems	813,776
Cancer	476,927
Stroke	149,835
Unintentional injuries	95,020
Respiratory problems	78,380
Pneumonia & influenza	69,225
Suicide	30,796
Homicide	21,103
Perinatal problems	18,222
Congenital malformations	12,333

4. The Five Most Common Causes of Death

by Age Group, 1960 and 1987



SOURCES

1960 data: US National Center for Health Statistics. *Vital Statistics of the United States, 1960.* Volume II, Mortality, Part A. Hyattsville MD. 1963. Table 5-11, pp. 5-182 to 5-189.

1987 data: US National Center for Health Statistics. *Vital Statistics of the United States, 1987.* Volume II, Mortality, Part B. Hyattsville MD. DHHS Pub. No. (PHS)90-1101. 1990. Table 8-5, pp. 8-170 to 8-193.

Rating Our Health

MOST AMERICANS think of themselves as healthy. When asked to rate their health from poor to excellent, compared to others their age, 91 percent say they are in good, very good or excellent health, and the largest group of people — 40 percent — rate their health as excellent. In 1988, nearly 10 percent rated their health as fair or poor.

Studies have shown that people's perceptions of their own health correlate well with their actual health status and with their use of health services. These self-assessments give a handy measure of the general health of Americans and indicate which groups may need more health care.

When survey data such as those shown at right are displayed by race only, they indicate that black Americans report poorer health much more frequently than do whites. This chart shows these data according to the respondents' income, too, which clearly demonstrates that reports of poorer health are linked more strongly to poverty than to race: The proportion of whites and blacks with incomes below $10,000 who rated themselves in fair or poor health are less than three percentage points apart — and were about four to five times as likely to rate their health low as were people with incomes between $30,000 and $39,999.

Not surprisingly, more older people reported fair or poor health: 29 percent of people 65 and over rated their health low compared to less than six percent of people ages 15 to 44. The income effect noted above is seen again among the elderly. A quarter of older people with incomes over $35,000 described their health as excellent, compared to only 11 percent of those with incomes less than $10,000.

NOTE

The data reported here are collected by the National Center for Health Statistics in the National Health Interview Survey, a continuing nationwide household survey. The survey does not include people who are in institutions, such as nursing homes and hospitals, who presumably would report poorer health.

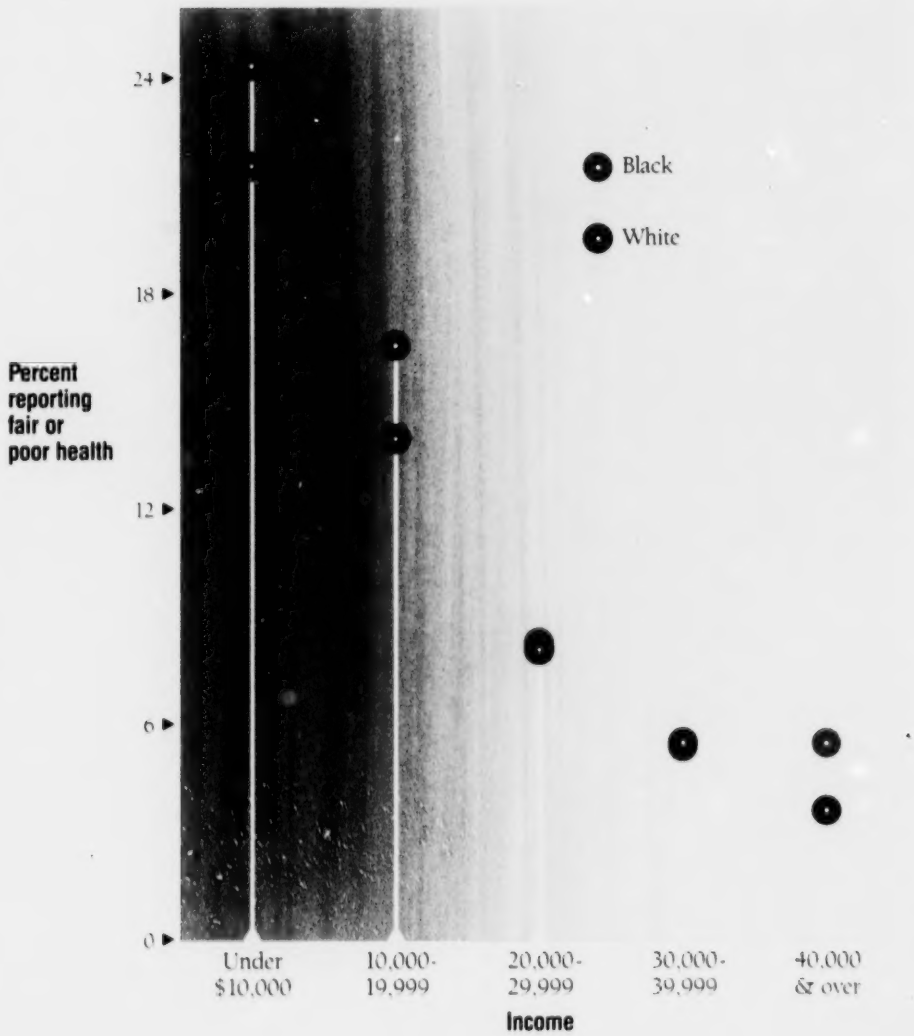
Self-assessment of health by age, 1988

	Fair or poor
Under age 5*	3.4%
5-14*	2.4
15-44	5.5
45-64	17.1
65-74	26.6
75 & over	33.8

*Assessed by parents

5. Self-Assessment of Health

by Race and Income, 1988



SOURCE

Unpublished data from the US National Center for Health Statistics, Division of Health Interview Statistics, Illness and Disability Statistics Branch.

The Medical Education Pipeline

IN THE LATE 1970s, forecasters began warning that the nation faced an oversupply of physicians. Since then, medical school applications have declined for various reasons: cutbacks in federal education assistance to medical schools and direct aid to students; fewer people of college age; prospects of higher debt and diminished future income after medical school; and a decline in the prestige and autonomy of the medical profession. Applications dropped 26 percent between 1980 and 1988 — the lowest year in at least a decade — although more recently they have increased again.

Because medical schools still can enroll enough qualified applicants to fill all their places, the number of graduates has not changed much. In 1989, 15,630 new doctors graduated from U.S. medical schools, slightly less than the 1984 peak of 16,343.

The rapid expansion of medical school enrollment during the late 1960s and early 1970s — an era of heightened civil rights concerns — provided an opportunity to increase the number of black and Hispanic medical students along with the increases in white enrollment. However, since 1976, total enrollment has stabilized, and minority representation in medical schools has leveled off.

In 1989, 5.2 percent of medical school graduates were black, and 5.5 percent were Hispanic, although blacks and Hispanics made up 12.0 percent and 8.3 percent of the U.S. population, respectively. By contrast, the "all other" racial and ethnic category (largely Asians) accounted for 8.3 percent of medical school graduates, but only 3.3 percent of the population.

The proportion of black and Hispanic students who applied to medical school rose slightly during the 1980s, while their acceptance rates remain lower than those of white students. Efforts to increase minority acceptance rates must focus on improving skills early in the educational pipeline, before college. Many minority students receive an inadequate primary and secondary education, and they may not receive the guidance they need to prepare for college, including taking the science and math courses that set the stage for pre-medical studies.

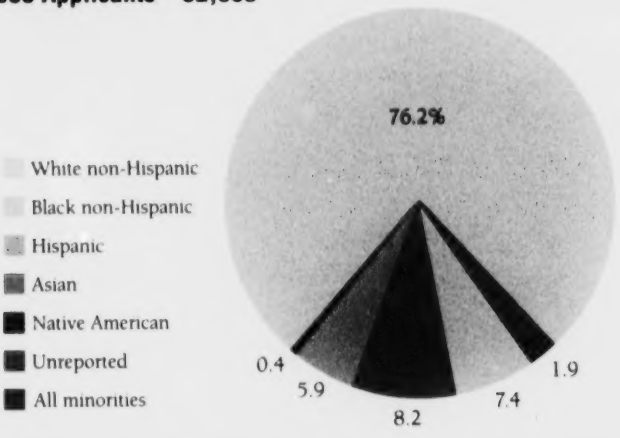
Medical school graduates by race/ethnicity, 1989

		1989 U.S. population ▼
White non-Hispanic	80.6%	76.4%
Black non-Hispanic	5.2	12.0
Hispanic	5.5	8.3
Other	8.3	3.3
Unknown	0.4	—

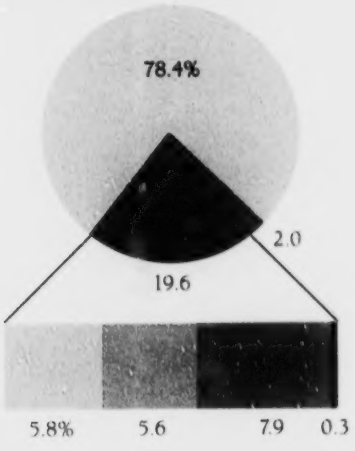
6. Medical School Applicants, Enrollees and Graduates, Class of 1989

by Race/Ethnicity

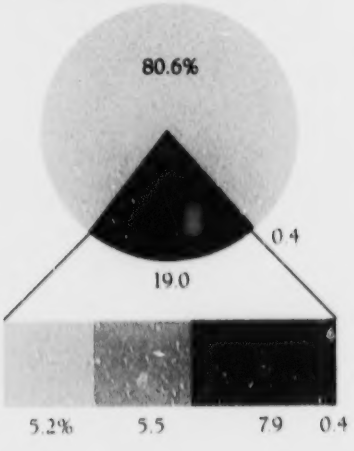
1985 Applicants – 32,893



1985 Enrollees – 16,268



1989 Graduates – 15,630



SOURCE

Unpublished data from the Association of American Medical Colleges, Division of Minority Health, Disease Prevention/ Health Promotion, Section for Minority Affairs.

Physicians

THE RAPID growth in both number and class size of U.S. medical schools in the late 1960s and early 1970s largely accounts for the 75 percent increase in the number of physicians between 1970 and 1988, when the national total reached 585,597. The federal government helped in this expansion by providing construction loans for new medical schools, by offering medical student loans and scholarships, and by paying medical schools for every student they enrolled.

By 1988, the number of physicians had increased so that there was one physician for every 420 Americans, compared to one for every 641 Americans in 1970. Although the number of physicians has increased markedly, access to physician care remains a problem in some rural and inner-city areas, and the proportion of physicians in primary care specialties has remained flat — about 40 percent.

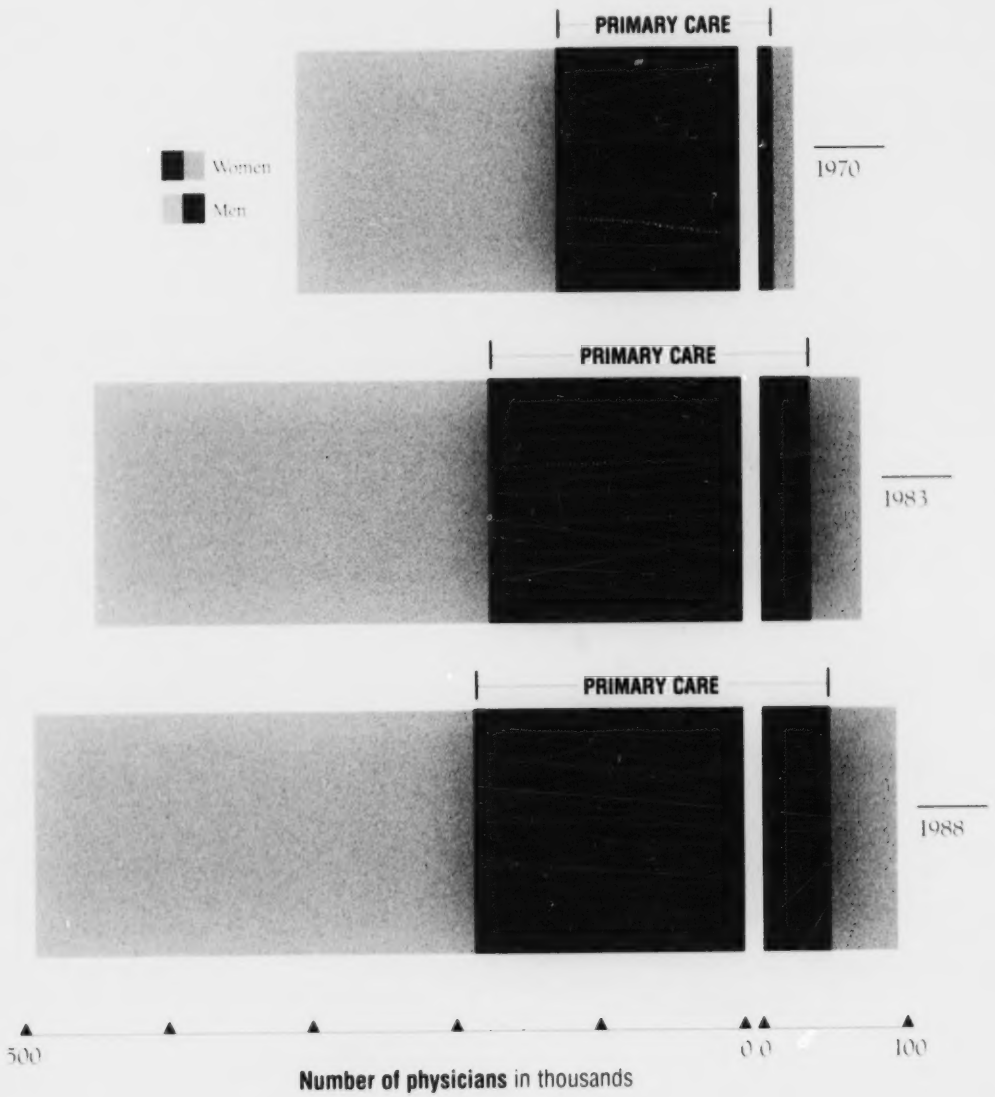
The other trend to notice in the chart on the facing page is the increase in women physicians since 1970. Women doubled their share of the total physician pool between 1970 and 1988, and enrollment figures from medical schools indicate this trend will continue. Women traditionally have been underrepresented in the surgical specialties and overrepresented in psychiatry, pediatrics and other primary care specialties, specialty distribution differences that are slowly disappearing.

Physicians in primary care practice 1970, 1983, 1988

	1970	1983	1988
All physicians			
% women	7.6	13.4	15.8
% men	92.4	86.6	84.2
All primary care physicians			
% women	7.3	16.4	20.0
% men	92.7	83.6	80.0

7. Number of Physicians

by Gender and Primary Care Practice, 1970, 1983, 1988



SOURCES

1970 and 1983 data: American Medical Association, Division of Survey and Data Resources, Department of Physician Data Services. *Physician Characteristics and Distribution in the U.S., 1987.* Chicago IL. 1987. Table A-2, pp. 19-20, and Table A-5, pp. 25-26.

1988 data: Unpublished data from the same source.

NOTE

Primary care as defined here includes family/general practice, internal medicine, pediatrics and obstetrics/gynecology.

Use of Physician Services

THE USE OF physician services is one indicator of health status. It tells whether and how often people feel ill enough to contact a doctor, but it also tells something about people's access to health care.

Americans had an average of 5.4 contacts with a physician in 1989. This includes office visits, telephone calls and treatment in emergency rooms, clinics and other outpatient settings. People use physician services more or less frequently, depending on health status, as well as on demographic factors like gender, age, race and income, at least some of which are related to their access to care.

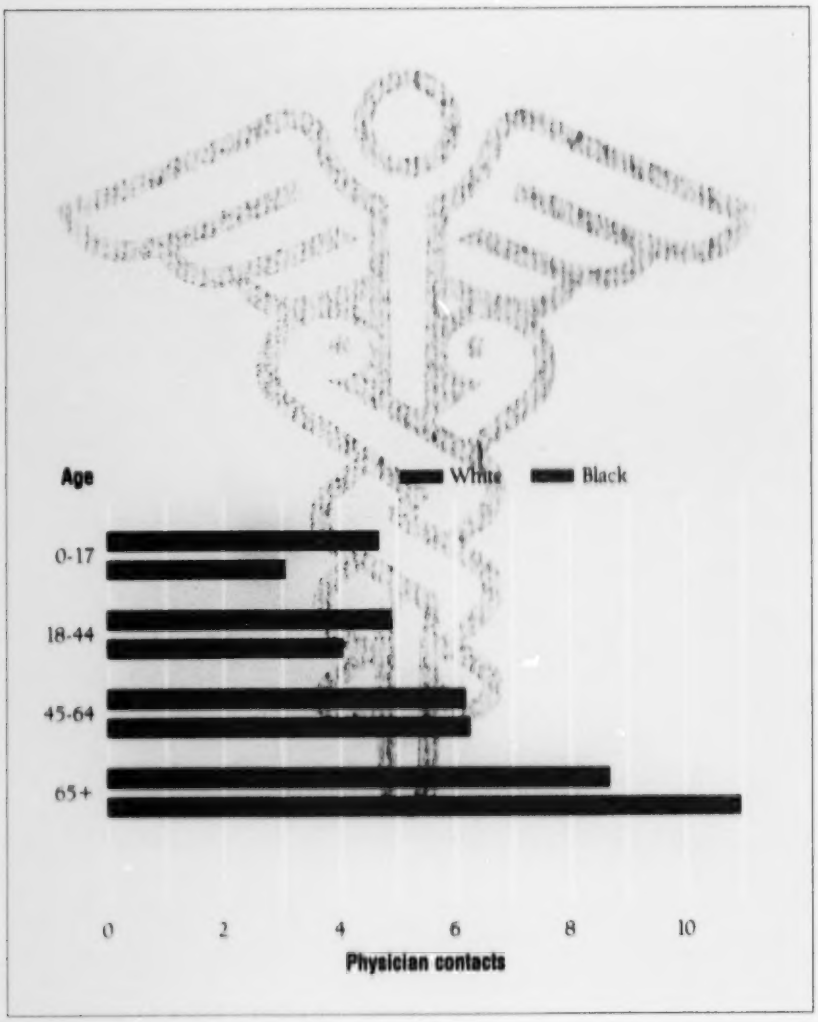
In part because of visits for family planning and prenatal care, women generally have more physician visits than men. In 1989, women had an average of 6.1 physician contacts, compared to 4.7 for men.

One of the most striking differences in the number of physician contacts occurred among children under age 18. In 1989, white children had an average of 1.6 more physician contacts per year than black children. Between ages 18 and 65, the annual number of physician contacts was more similar for blacks and whites, although blacks over 65 were much more frequent users of physician services than elderly whites.

People with family incomes below $10,000 also were heavier users of physician services, averaging 6.8 contacts in 1989, compared to 5.2 contacts in families with incomes of $35,000 or more. However, people from low-income households who reported fair or poor health had significantly *fewer* visits than people in the highest income groups.

8. Annual Physician Contacts per Person

by Age and Race, 1989



SOURCE

US National Center for Health Statistics. *Current Estimates From the National Health Interview Survey, 1989*. Vital and Health Statistics, Series 10, No. 176. Hyattsville MD. DHHS Pub. No. (PHS) 90-1504, 1990. Table 71, p. 115.

Registered Nurses

IN THE FACE of a reportedly critical nursing shortage in hospitals, the supply of registered nurses has actually increased since the early 1970s. There were 1.6 million active registered nurses in 1988, or 662 for every 100,000 Americans — almost double the proportion in 1972.

Today's nurses are more highly educated than previously. By 1988, about 29 percent of nurses held baccalaureate degrees, compared to 18 percent in 1977, and the number of nurses with master's or doctoral degrees more than doubled in that period.

Although recent data show nursing school enrollment rising in the late 1980s, 1990 enrollment remained down eight percent from 1983, the peak enrollment year of the last two decades. Among the reasons for this decline are that other career fields have attracted young women (97 percent of nurses are women), and the college-age population overall has shrunk.

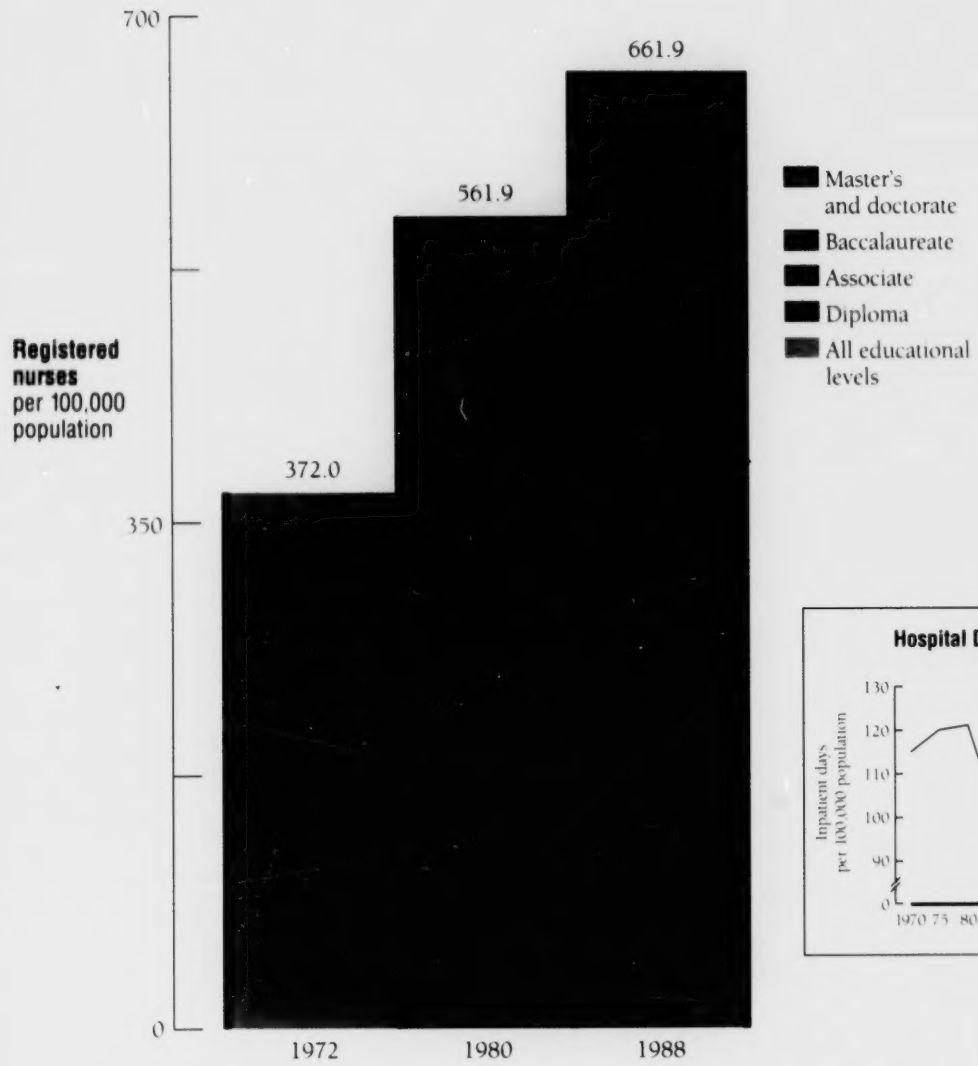
Why do concerns persist about a shortage of registered nurses for hospitals, even while (as the inset chart shows) the number of hospital inpatient days has declined? Some experts explain the problem as one of demand rather than supply. Between 1980 and 1987, hospitals cut their use of licensed practical nurses (LPNs) and ancillary personnel, such as aides and orderlies. Thus, by 1988, RNs accounted for 81 percent of all hospital nursing department personnel, compared to 33 percent in 1968.

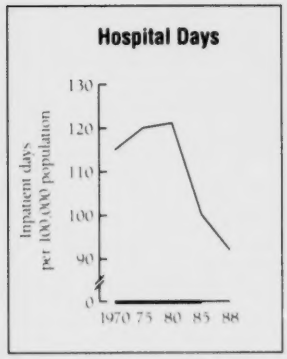
Hospital administrators prefer employing RNs because today's typical hospital patient is substantially sicker than years ago, due to an aging population, to insurers' reimbursement rules that encourage short hospital stays and to new technologies that keep very ill patients alive. Moreover, RNs are called on to perform many tasks in addition to nursing care. One study found, for example, that 10 to 40 percent of an RN's time is spent on non-nursing duties, such as housekeeping and patient transportation.

Some 63 percent of recent nursing school graduates work in hospitals, compared to only 15 percent of nurses who have been out of school for 12 years. When nurses reach their 30s or have young families, they tend to seek employment elsewhere, deterred by hospitals' demanding work schedules. Instead, they work in nursing homes, physician offices, schools, home health care agencies and other settings that offer regular hours, but usually pay less.

9. Active Registered Nurses

by Level of Nursing Education, 1972, 1980, 1988





SOURCES

1972 nursing data: American Nurses Association. *The Nation's Nurses: 1972 Inventory of Registered Nurses.* Kansas City MO. 1974. Table 1, p. 18.

1980 nursing data: US Health Resources and Services Administration, Bureau of Health Professions. *The Registered Nurse Population: From National Sample of Registered Nurses, November 1980.* Revised November 1982. Hyattsville MD. DHHS Pub. No. HRS-P-OD-83-1, 1982. Table 3, p. 16.

1988 nursing data: US Health Resources and Services Administration, Bureau of Health Professions. *The Registered Nurse Population: Findings from the National Sample Survey of Registered Nurses, March 1988.* Hyattsville MD. 1990. Table 17, p. 49.

Hospital data: American Hospital Association. *Hospital Statistics: A Hospital Fact Book.* Chicago IL. Various years.

NOTES

"Active" nurses are currently practicing.

1972 nursing education data unavailable.

Hospital Beds

IN THE 1980s, two important developments led to decreased hospital use: the introduction of prospective payment by Medicare and the shift toward outpatient care. Medicare's new rules gave hospitals powerful financial incentives to keep inpatient stays as short as possible. About the same time, patients, providers and many third-party payers began to urge more outpatient services. New types of facilities — birthing centers, surgi-centers and so on — and new technology helped make expanded outpatient services possible.

In 1970, the average hospital was 77 percent full; by 1989, the occupancy rate had dropped to 66 percent. Some analysts believe that one-third of all licensed hospital beds — some 330,000 beds — may be unneeded. One way to estimate the number of excess beds is to compare actual use (annual inpatient days) to potential use (available bed days).

In 1989, there were 341.5 million bed days available at all short-term general hospitals — far in excess of the 225.9 million inpatient days actually used. While the number of available bed days has declined since 1980, a result of hospital closure and consolidation, utilization has dropped even faster. The result is that excess capacity actually increased from 25 percent of available bed days in 1980 to 34 percent in 1989. During this period, available bed days (capacity) decreased for every kind of hospital except private, for-profit hospitals — still a small proportion of total hospital beds.

Why are empty hospital beds a problem? Since the number of hospital beds in an area appears to correlate with the rate of hospital admissions, health economists worry that idle beds may encourage unnecessary hospitalizations and inflate total hospital costs. Because of these potential costs, the number of such beds is important both nationally and regionally.

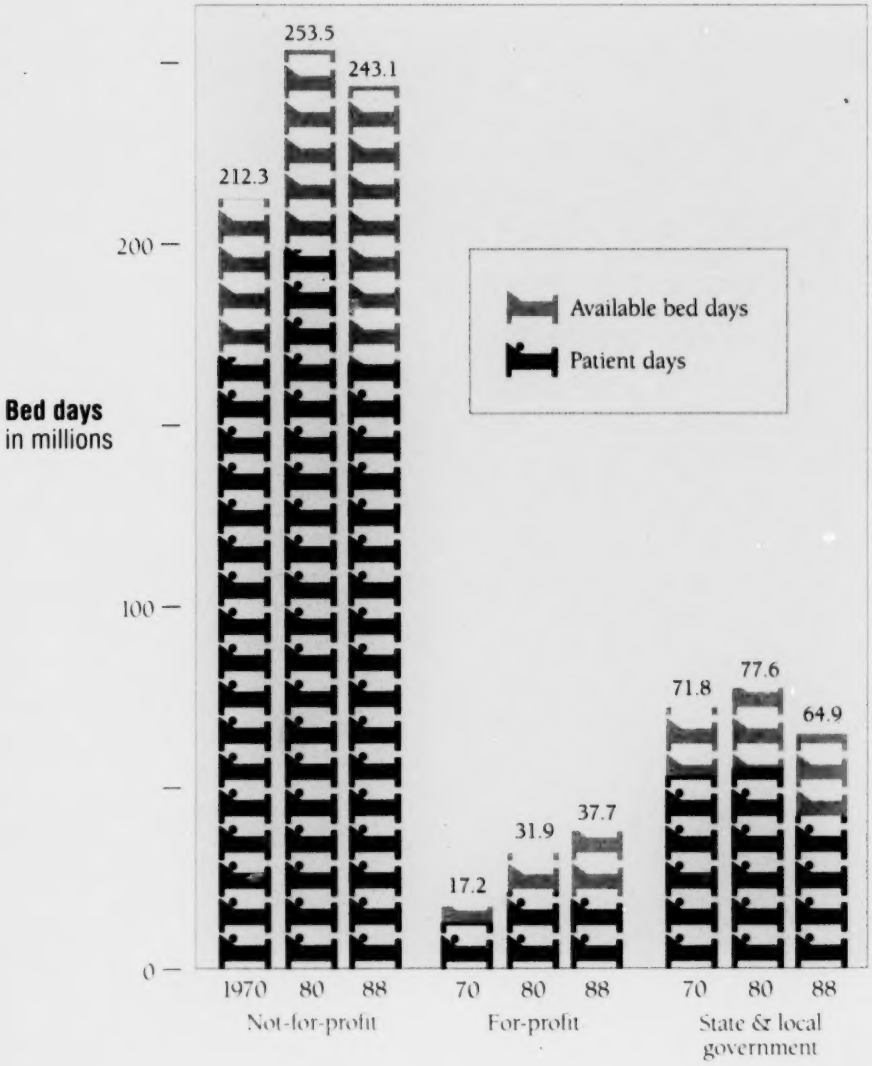
Some excess hospital beds — more than 4,200 in 1989 — are being eliminated. Others are being converted to new uses, such as for skilled nursing, substance abuse treatment or psychiatric care.

Number of short-term general hospitals

1970	5,859
1980	5,904
1989	5,497

10. Hospital Bed Capacity and Actual Use

in Non-Federal Short-Term General Hospitals
1970, 1980, 1988



SOURCES

1970 data: Guide Issue, Part 2. *Hospitals* 45(15): 487-488, 1971. Table 6.

1980 data: American Hospital Association. *Hospital Statistics*, 1981 ed. Chicago IL. Product No. H01-082081, 1981. Table 4A, p. 14, and Table 4B, p. 15.

1988 data: American Hospital Association. *Hospital Statistics: A hospital fact book*, 1989-90 ed. Chicago IL. Product No. H01-082089, 1989. Table 4A, p. 14.

NOTES

"Bed days" refers to the number of set up and staffed beds (statistical beds) at the end of the reporting period multiplied by 365 days.

"Patient days" refers to the total number of days of patient care provided in the hospital during the year.

Psychiatric Beds

AS RECENTLY AS the 1940s, large public psychiatric hospitals cared for nearly 98 percent of all people institutionalized with mental illnesses. Stays were long; care was predominantly custodial. Today, many kinds of facilities provide inpatient and residential (non-hospital) psychiatric care, but state and county hospitals still treat the poorest and the most severely ill patients, as well as most of the patients committed involuntarily.

From 1970 to 1986, the number of beds in public mental hospitals decreased dramatically, with the number of beds in state and county mental institutions alone dropping from 413,066 to 119,033. Despite this reduction, state and county hospitals still contain 44 percent of the inpatient beds for people with mental illnesses, the largest share by far of any type of institution.

A trend is for short-term general hospitals to convert empty medical/surgical beds to beds for patients needing acute, short-term psychiatric and substance abuse care. This lets hospitals take advantage of an increased demand for these services, fueled by improved insurance coverage. Between 1970 and 1986, general hospitals doubled their capacity to provide psychiatric and substance abuse services and now devote 4.6 percent of all hospital beds to this purpose. They have had some trouble, however, keeping these beds filled.

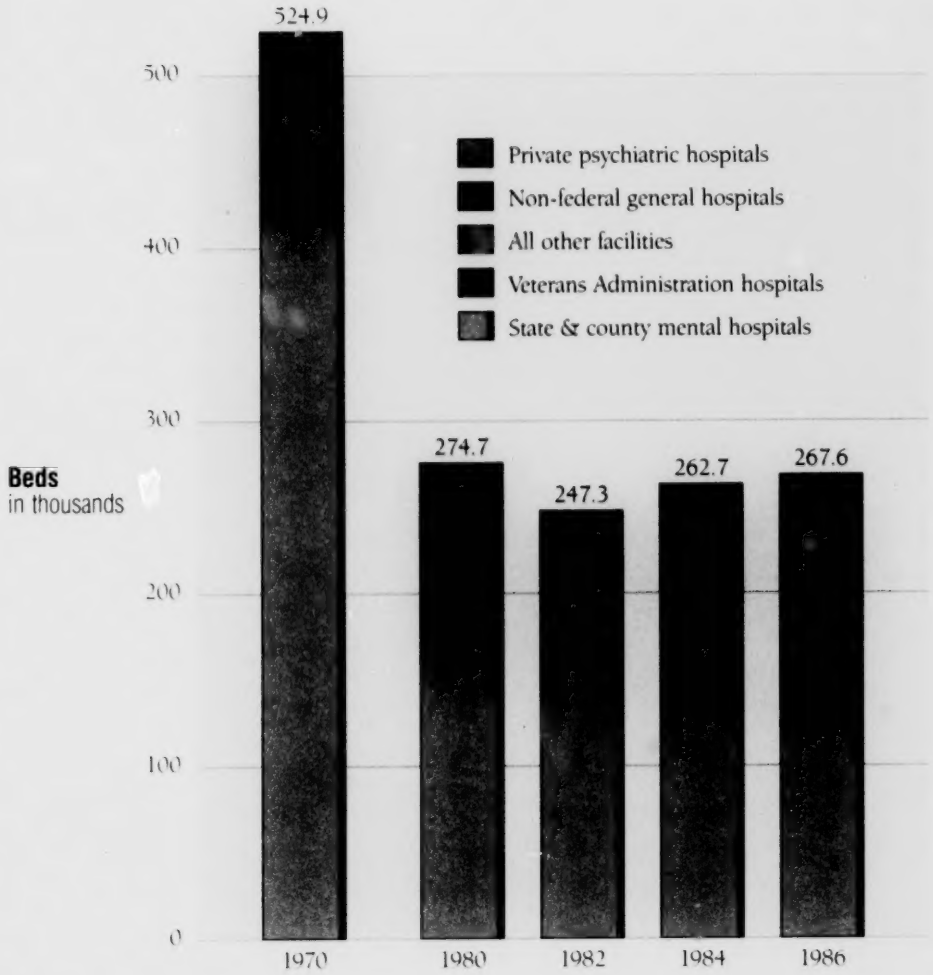
The other clear trend in the chart on the opposite page is the increase in beds in private psychiatric facilities. These hospitals more than doubled their bed capacity between 1970 and 1986.

Private psychiatric hospitals primarily serve insured patients, whose inpatient coverage typically is limited to 90 days. In part driven by insurance coverage, patient lengths-of-stay in private psychiatric hospitals tend to be markedly shorter than in public institutions, where some 60 percent of patients are hospitalized for longer than 12 months. The growth of private psychiatric hospitals has given rise to "cream-skimming" — serving well paying patients who are not too deeply troubled.

Although not reflected in these data, many people with mental illnesses — particularly dementia — receive long-term inpatient care in nursing homes. Ironically, deinstitutionalization of people from public mental hospitals in the 1960s and 1970s has culminated in the reinstitutionalization of a great many of them in nursing homes.

11. Inpatient and Residential Psychiatric Beds

by Type of Facility, Selected Years



SOURCE

US National Center for Health Statistics. *Health, United States, 1989*. Hyattsville MD. DHHS Pub. No. (PHS) 90-1232. 1990. Table 95, p. 217.

NOTES

"All other facilities" include federally funded community mental health centers, residential treatment centers for emotionally disturbed children and other multi-service mental health organizations.

Changes in reporting procedures affect the comparability of data among years.

Nursing Home Beds

LONG-TERM CARE services range from home care to institutionalization. To most people, "long-term care" means nursing homes, but nursing homes are only the extreme end of the long-term care continuum, serving the most disabled and frail.

Although the greatest use of long-term care services is by people 65 and older, many people who have various temporary or permanent physical disabilities, who have chronic mental illnesses or who are mentally retarded may need some form of long-term care.

The average occupancy rate in nursing homes was 92 percent in 1986, which means they are virtually full (a few beds always are being held in reserve or have just become available). A slightly smaller percentage of all elderly people lived in nursing homes in 1986 than in 1976 (4.5 percent vs. 4.8 percent).

The supply of nursing home beds has not kept pace with growth in the U.S. elderly population. Between 1976 and 1986, the population 65 and older grew 27 percent, while the number of nursing home beds increased only 19 percent. At current levels of use and unless other long-term care options are developed and adequately funded, we will need twice today's number of nursing home beds just by the year 2000.

Because of increased life expectancy and the aging of the baby boom population, the number of people over 65 is expected to increase from 29.2 million in 1986 to 64.3 million by 2030. The over-85 population — 23 percent of which lives in nursing homes — is expected to more than double, reaching 8.8 million by 2030.

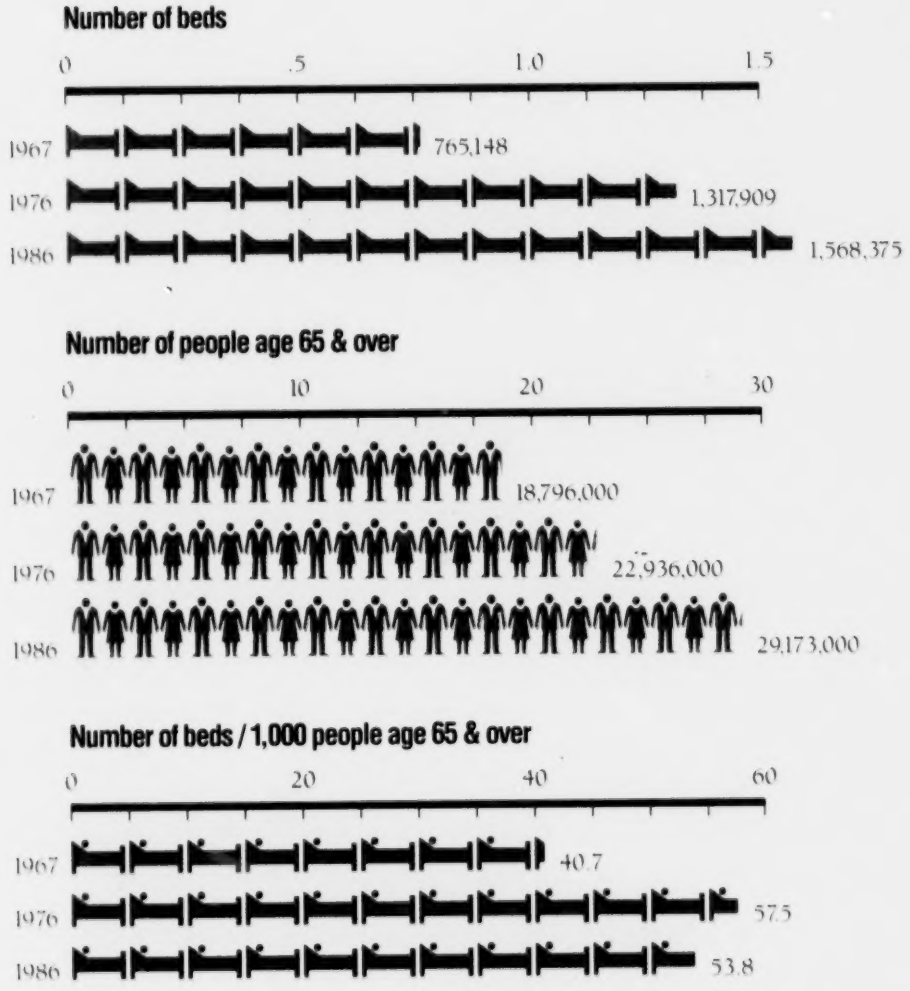
People concerned about improving long-term care are not so much crusading for more nursing home beds as they are advocating a more comprehensive approach to long-term care. Home health care, adult day services, meals-on-wheels and respite for family caregivers are some of the community-based services that can help people avoid institutional care, a goal of many frail elderly people and their families.

Number of nursing homes

1967	14,489
1976	16,426
1986	17,122

12. Nursing Home Beds and Number of Elderly

1967, 1976, 1986



SOURCE

US National Center for Health Statistics. *Nursing Home Characteristics: 1986 Inventory of Long-Term Care Places*. Vital and Health Statistics, Series 14, No. 33. Hyattsville MD. DHHS Pub. No. (PHS)89-1828, 1989. Table F, p. 8.

NOTE

1986 data are from the 1986 Inventory of Long-Term Care Places. 1967 and 1976 data are from the National Master Facility Inventory surveys.

ADDITIONAL SOURCES

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US Public Health Service. *Healthy People 2000*. Washington DC: DHHS Pub. No. (PHS)91-50213, 1991.

US National Center for Health Statistics. *Health United States: 1987*. Hyattsville MD: DHHS Pub. No. (PHS)88-1232, March 1988.

◆ Rating Our Health

Ries PW. *Americans Assess Their Health: United States, 1978*. US National Center for Health Statistics, Vital and Health Statistics, Series 10, No. 142. Hyattsville MD: DHHS Pub. No. (PHS)83-1570, March 1983.

◆ The Medical Education Pipeline

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◆ Registered Nurses

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◆ Hospital Beds

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Brickner PW, Lechich AJ, Lipsman R and Scharer LK. *Long Term Health Care: Providing a Spectrum of Services to the Aged*. New York: Basic Books, Inc., 1987.

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THE HEALTH OF THE NEWEST GENERATION

FAST FACTS

◆ In 1988, 34 other countries had lower infant mortality rates than the United States.

◆ The 1988 infant mortality rate of 10 deaths for every 1,000 live births was the lowest ever recorded for the United States.

◆ In the first year of life, black infants are more than twice as likely to die as white infants: 17.6 deaths per 1,000 live births for blacks, compared to 8.5 for whites.

Infant Deaths Here & Abroad

WORLDWIDE, infant mortality has decreased dramatically since 1960. Improved socioeconomic conditions, wider access to prenatal care, better nutrition and advances in medical science — all have contributed to the decline.

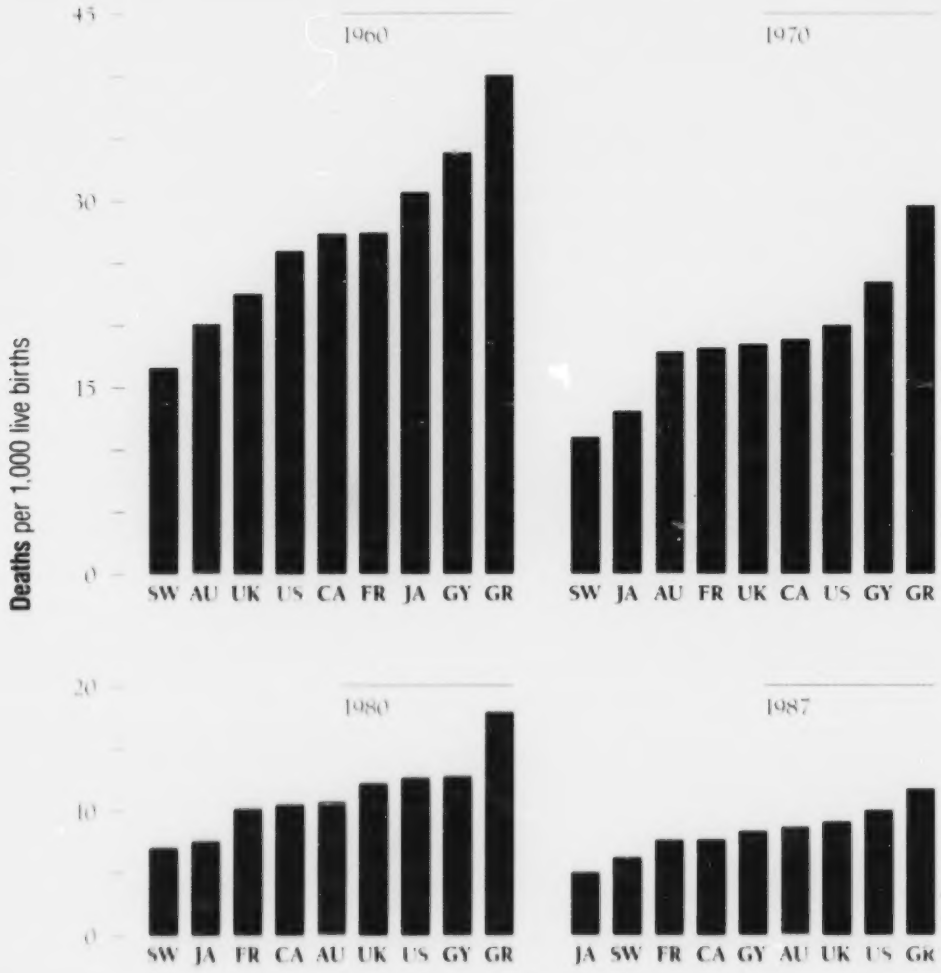
The United States now lags behind many other industrialized countries in lowering its infant mortality rate. In 1960, infant mortality rates in Canada, France, Japan and the Federal Republic of Germany were higher than the U.S. rate. By 1987, all those countries plus 16 more had reduced infant mortality to levels below that of the United States. Japan has been particularly successful in reducing infant deaths. In 1960, Japan's infant mortality rate was 30.7 deaths per 1,000 live births, but by 1987, it was five deaths per 1,000 live births — half the U.S. rate.

After 20 years of steady progress, the decline in U.S. infant mortality rates began to slow in the mid-1980s and has hovered around 10.0 per 1,000 live births ever since. Preliminary federal figures put the 1989 rate at 9.7. (Preliminary rates usually increase a bit when final figures are in.)

Recently, the U.S. Public Health Service established a Year 2000 objective to reduce infant mortality. Although the government's 1990 target (nine deaths per 1,000 live births) is unlikely to have been reached, the Year 2000 objective is even more ambitious — seven deaths per 1,000 live births. In setting its Year 2000 objectives, the agency re-emphasized the need for special efforts to reduce infant mortality among blacks, Native Americans and Puerto Ricans, who have markedly higher rates than the national average.

13. Infant Mortality Rates

Selected Countries and Years



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1987 Canadian data: Unpublished data from the Department of Health and Welfare, Health Information Division, Ottawa, Canada.

Births & Infant Deaths

IN THE United States, nearly one of every 100 infants dies within a year of birth — a high rate compared to other developed nations. The U.S. infant mortality rate may have reached its lowest point ever in 1989, 9.7 deaths per 1,000 live births, according to preliminary data. Yet, this overall rate masks sharp differences among U.S. population groups. Even race- or ethnicity-specific rates don't give a completely accurate picture: Birth, birthweight and infant death rates are very different among the various Hispanic groups, for example.

About 60 percent of U.S. infants who die have one trait in common — low birthweight. In 1985, 5.6 percent of white infants were born weighing 5.5 pounds or less, but 58 percent of the white infants who died were from this group; among black newborns, 12.4 percent weighed 5.5 pounds or less, but 69 percent who died were from this group. (More recent data linking birthweight and deaths were not available as of December 1990.) Death rates are even higher among very low birthweight infants, born weighing less than 3.3 pounds.

Black mothers are twice as likely as white mothers to have low birthweight infants. The reasons for this difference are not completely clear, but it does help to explain why the 1988 infant mortality rate was twice as high for black infants (17.6 per 1,000 live births) as for white infants (8.5 per 1,000). A variety of physiologic, demographic and behavioral factors influence low birthweight, as does a lack of basic health services and prenatal care.

Dramatically improved medical technology has saved many high-risk newborns' lives and significantly lowered infant mortality rates in the 1970s. But technology cannot prevent — or repair — everything. Many experts believe that infant mortality rates will not decline much further unless we make strides in preventing low birthweight. The trend has been discouraging: The incidence of low birthweight, which reached a low of 6.7 percent in 1984, increased to 6.9 percent in 1988.

NOTES

The infant mortality rate is the number of deaths during the first year of life per 1,000 live births.

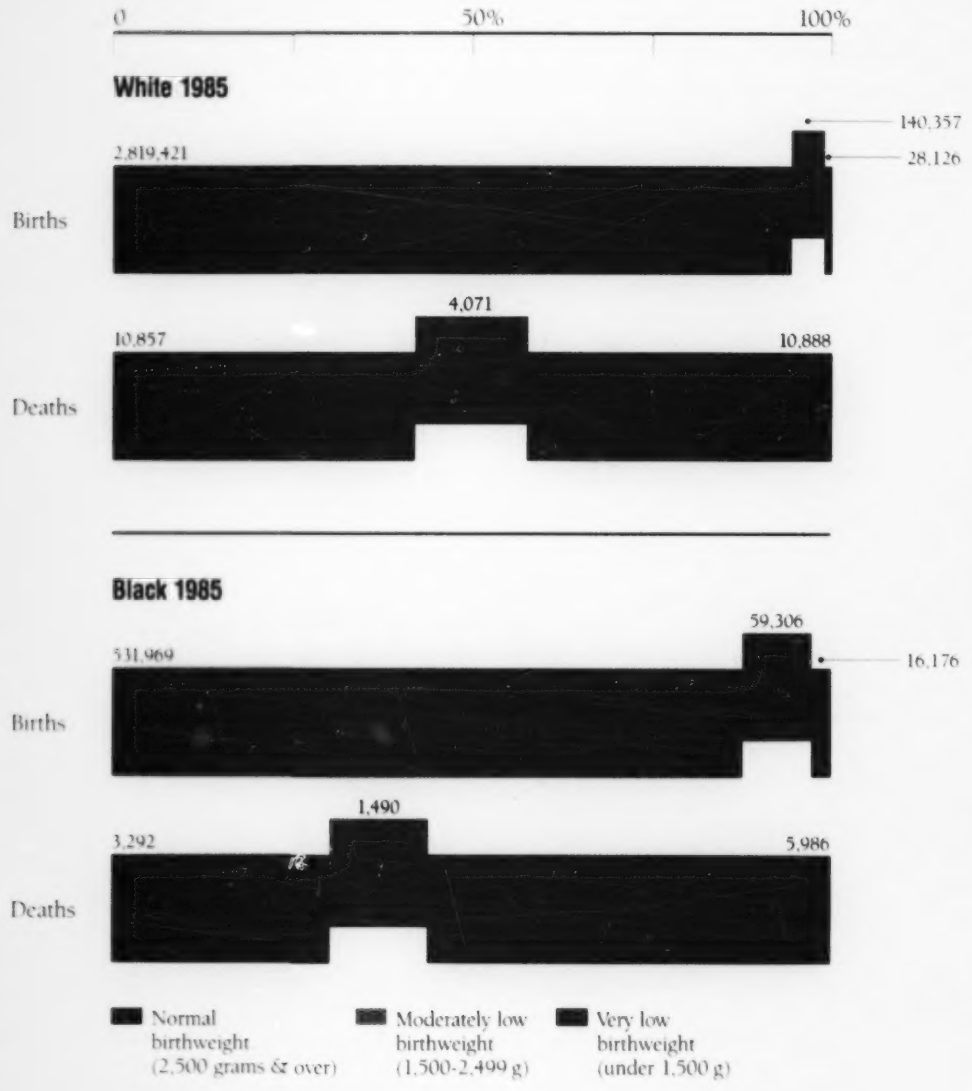
Low birthweight infants are those weighing less than 2,500 grams (5.5 pounds) at birth. Very low birthweight infants are those weighing less than 1,500 grams (3.3 pounds).

Infant death rates, 1985

White	8.9
Black	18.3
Hispanic	8.6

14. Births and Infant Deaths

by Race and Birthweight, 1985



SOURCE

Unpublished data from the US National Center for Health Statistics, Mortality Statistics Branch, Linked Birth and Infant Death Record Project.

Threats to Infant Survival

INFANT DEATHS are divided into two categories: neonatal and postneonatal. Neonatal deaths (those in the first 28 days of life) generally result from factors associated with pregnancy and birth (including prematurity and birth defects), while postneonatal deaths (those between 29 days and one year) often are associated with factors in the home environment (poor nutrition, injuries, infections and so on).

Two-thirds of all infant deaths occur in the first 28 days, and in the last several decades, the most dramatic mortality reductions have occurred in that period. From a rate of 18.7 deaths per 1,000 live births in 1960, U.S. neonatal mortality dropped to 6.3 per 1,000 by 1988. Major advances in high-technology medical care are responsible for much of this decline.

During the last 20 years, postneonatal mortality has declined more slowly than neonatal mortality. One partial explanation is that, as survival of high-risk neonates has increased, many more severely ill infants reach the postneonatal period.

Mortality is only the extreme end of a continuum of newborns' health problems, but it is one of the few measures of infant "health" for which we have reliable data. The majority of health problems among newborns are related to congenital defects, infectious diseases and nutritional disorders, which may cause illness or disability, but are not fatal. Newborns' health also can be compromised if they have been exposed to chemical or biological hazards before birth.

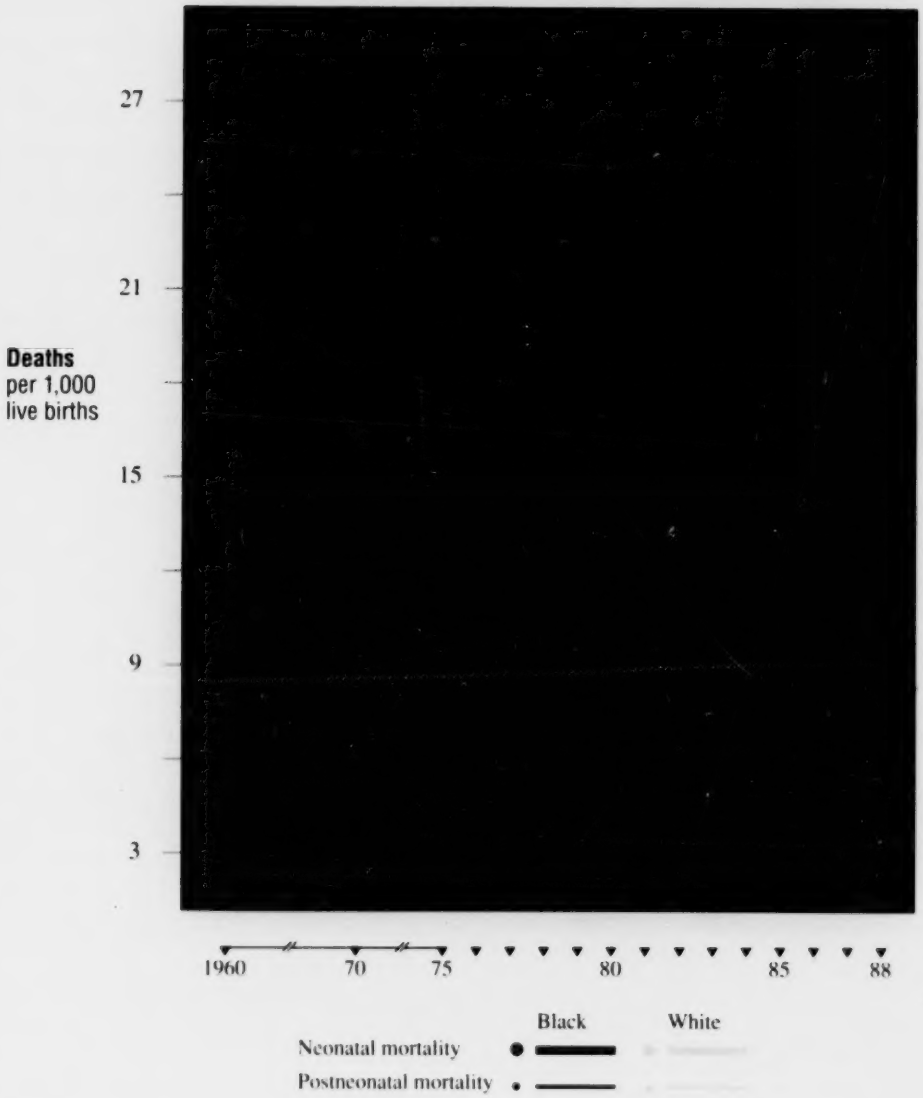
Preventing low birthweight — including the prevention of high-risk behavior among pregnant women — is the most promising avenue for reducing infant mortality, illness and disability.

Components of infant mortality, 1988

	Deaths per 1,000 live births	
	White	*Black*
Neonatal mortality	5.4	11.4
Postneonatal mortality	3.1	6.2
Total infant mortality	8.5	17.6

15. Neonatal and Postneonatal Mortality

by Race, 1960, 1970, 1975-1988



SOURCE

US National Center for Health Statistics. *Advance Report of Final Mortality Statistics, 1988.* Monthly Vital Statistics Report, Vol. 39, No. 7, Supplement. Hyattsville MD. DHHS Pub. No. (PHS)91-1120, 1990. Table 13, p. 32.

Low Birthweight Risks

COMPARED TO a normal weight infant, a low birthweight infant is 40 times more likely to die in the first month of life and two to three times more likely to have a lifelong disability, such as a congenital defect, a neurological disorder (such as cerebral palsy or seizures), respiratory problems or mental retardation. An infant may be low birthweight because it is born prematurely, because it has a congenital defect or developmental problems that make it small, or both.

Preventing low birthweight is the top priority in efforts to reduce U.S. infant mortality rates and improve the health of future generations. A long list of interrelated maternal risk factors contributes to low birthweight. Some are medical (diabetes, hypertension) and some are behavioral (smoking, drinking). Others describe groups of women at a higher risk of delivering a low birthweight infant, such as being over age 35, of lower economic and educational status or unmarried. Many of these factors suggest that there are specific groups to whom reproductive health and low birthweight prevention programs should be targeted.

Lack of adequate prenatal care is an important preventable risk factor. In 1988, nine percent of white women who had little or no prenatal care had low birthweight babies, compared to five percent who began prenatal care in the first three months of pregnancy. The benefit of prenatal care is even more dramatic among black women: 19 percent who had little or no prenatal care gave birth to low birthweight infants, compared to 12 percent whose prenatal care began early.

Prenatal care is only one of several interventions needed to address the serious and complex problem of low birthweight, because risk factors for low birthweight frequently are interrelated. For example, women without a high school education are statistically more likely to have low birthweight infants, but this may be due as much to a higher incidence of smoking, poverty and lack of health insurance in this group as to any independent effect of poor education.

NOTE

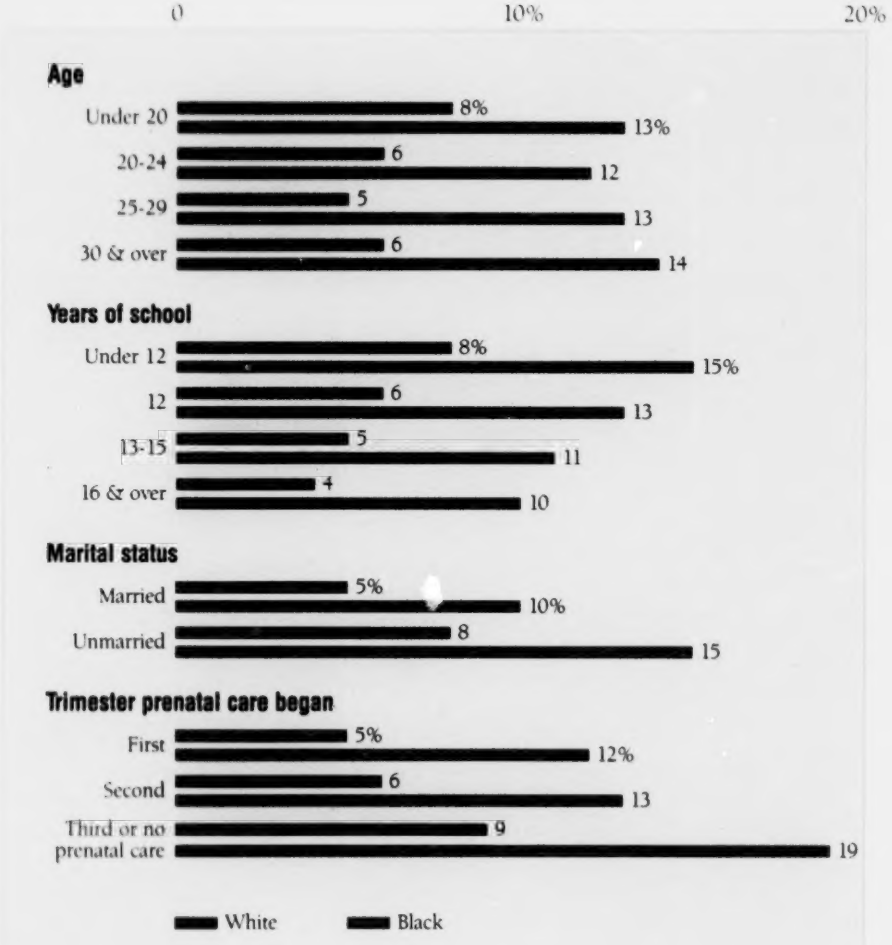
Low birthweight infants are those weighing less than 2,500 grams (5.5 pounds) at birth. Very low birthweight infants are those weighing less than 1,500 grams (3.3 pounds).

Maternal factors associated with low birthweight

- Age (over 35 years)
- Race (black)
- Low socioeconomic status
- Unmarried
- Fewer years of education
- Underweight
- Poor weight gain (during pregnancy)
- Mother's own low birthweight
- Poor nutrition
- Smoking
- Alcohol and substance abuse
- Multiple pregnancy (twins, triplets)
- Previous low birthweight infant

16. Low Birthweight Rates for Selected Maternal Characteristics

by Race, 1988



SOURCES

US National Center for Health Statistics. *Advance Report of Final Natality Statistics, 1988*. Monthly Vital Statistics Report, Vol. 39, No. 4, Supplement. Hyattsville MD. DHHS Pub. No. (PHS)90-1120, 1990. Table 15, pp. 28-29.

US National Center for Health Statistics. *Vital Statistics of the United States, 1988*. Volume I, Natality. Hyattsville MD. DHHS Pub. No. (PHS)90-1100, 1990. Tables 1-43, p. 73; 1-85, pp. 253-254; 1-86, p. 255.

Costs of Low Birthweight

LOW BIRTHWEIGHT is a costly problem in both human and economic terms. Its monetary costs derive from greater use of neonatal intensive care, higher rates of rehospitalization during infancy and, sometimes, special care throughout early childhood — or longer, for those who are mentally or physically impaired. Low birthweight infants are seven percent of all births, yet they account for 16 percent of all costs for initial hospitalization, rehospitalization and special services to age 35.

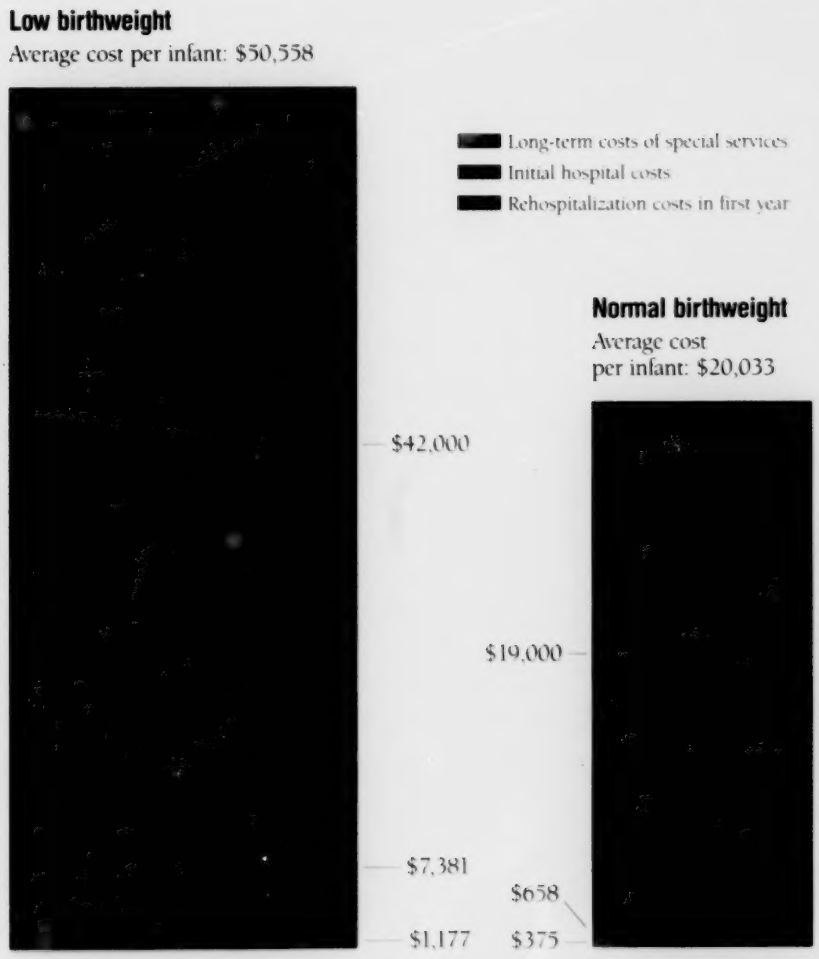
Largely because of these long-term costs, the average cost of services from birth to age 35 is more than twice as high for low birthweight infants than normal birthweight infants — $50,558 vs. $20,033. (These figures are from a special study of low birthweight based on 1986 costs.) In the United States, we will spend a total of $8 billion more in services for the 262,000 low birthweight infants born in 1987 than we would on an equivalent number of normal birthweight infants.

The initial hospitalizations of low birthweight infants born in 1987 cost an estimated $1.8 billion more than if they had been born within the normal weight range. About 19 percent of low birthweight infants are rehospitalized during their first year, compared to eight percent of normal weight infants, at an excess cost of some $211 million for those born in 1987 alone.

Birth defects and chronic illnesses and disabilities require costly interventions. Because such problems are more prevalent among low birthweight infants, long-term costs for institutional or foster care and special education are greater in this group. An estimate of the average long-term costs of special services for a normal weight infant born in 1987, up to age 35, is $19,000, compared to $42,000 for an infant who was low birthweight. Some $6 billion extra will be spent on long-term costs for special services for low birthweight children born in 1987.

17. Average Health Care Costs Associated with Birthweight

from Birth to Age 35



SOURCE

US Congress, Office of Technology Assessment. *Healthy Children: Investing in the Future*. Washington DC. OTA-H-345. 1988. Pp. 83-85.

NOTE

Costs are calculated from the high-end estimates contained in the text cited above.

ADDITIONAL SOURCES

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Wegman ME. Annual Summary of Vital Statistics: 1989. *Pediatrics* 86(6):835-847, 1990.

◆ Births & Infant Deaths Threats to Infant Survival

Institute of Medicine. *Preventing Low Birthweight*. Washington DC: National Academy Press, 1985.

US Public Health Service. *Healthy People 2000*. Washington DC. DHHS Pub. No. (PHS)91-50213, 1991.

◆ Low Birthweight Risks

Kleinman JC and Kessel SS. Racial Differences in Low Birth Weight: Trends and Risk Factors. *New England Journal of Medicine* 317(12):749-753, 1987.

THE AIDS EPIDEMIC

FAST FACTS

◆ As of December 31, 1990, 161,073 Americans had been diagnosed with AIDS.

◆ Teenage and adult women were 11.3 percent of all new cases of AIDS reported in 1990.

◆ Also in 1990, nearly one new AIDS case in 50 occurred in children 12 or younger.

◆ AIDS is now the second leading cause of death among men ages 25 to 44 — surpassing heart disease, cancer, suicide and homicide — and may soon be one of the five leading killers of women in that age group.

◆ 100,813 American children and adults had died from AIDS and related conditions by the end of 1990.

The Evolving AIDS Epidemic

IN THE UNITED STATES, the first warning bell for the coming Acquired Immune Deficiency Syndrome (AIDS) epidemic is generally considered to have sounded in June 1981, with the published report of a cluster of deaths from an unusual cause — *Pneumocystis carinii* pneumonia. Health experts realized that people were coming down with this pneumonia because their immune systems were too weak to fight it, but did not know why.

At first a disease almost exclusively of homosexual men, AIDS and the virus that causes it (HIV) now have spread to many other groups. The number of people with AIDS has climbed rapidly; by 1987, AIDS was already the sixth leading cause of death among Americans ages 25 to 44 and by the end of 1990, it was number two among men that age.

Although 65 percent of AIDS cases still occur among gay men, the rate of increase in new cases is slowing down in that group and rising rapidly among intravenous (IV) drug users and their sexual partners. The result is that the epidemic affects an ever-larger proportion of poor and inner-city residents.

The chart shows that, between 1983 and 1989, the proportion of new AIDS cases attributable to male-to-male sexual activity decreased in the white and Hispanic populations and held steady among blacks. At the same time, the proportion of new AIDS cases increased among people whose only risk factor was IV drug use, regardless of ethnic group. New cases of heterosexually acquired AIDS increased dramatically in the Hispanic and black populations between 1983 and 1989 — doubling among Hispanics (from 3.6 percent to 7.2 percent of new cases) and more than quadrupling among blacks (from 1.8 percent to 11.9 percent).

Increasingly, women are being diagnosed with AIDS: More than 11 percent of new AIDS cases reported by the fall of 1990 were among women, compared to 7.5 percent of new cases in 1983. As a result, the number of infants contracting HIV infection prenatally is increasing. Health experts also warn about the potential for transmission among adolescents.

Several factors help explain why the number of new cases among gay men is no longer expanding as quickly as previously. One is the use of drugs that temporarily forestall AIDS symptoms in people infected with the virus; another is the change in sexual behavior adopted by many gay men.

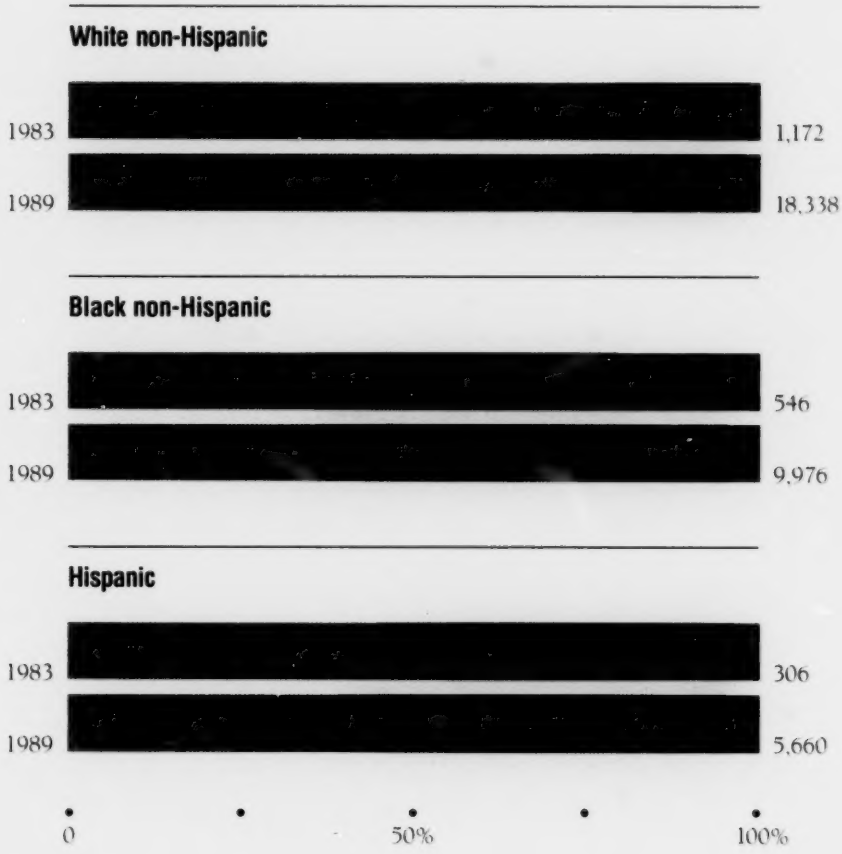
For several years officials have estimated that as many as one million Americans are infected with HIV, but no one really knows how accurate this estimate is. Reported cases indicate that more than 161,000 people had developed AIDS by the end of 1990, and 63 percent of those had died.

AIDS cases reported through December 1989

Under age 5	1.4%
5-12	3
13-19	4
20-29	20.4
30-39	46.1
40-49	21.2
50-59	7.2
60 & over	3.0
Total	100.0%

18. New Cases of AIDS

by Race/Ethnicity & Risk Category, Reported in 1983 & 1989



SOURCES

1983 data: US National Center for Health Statistics. *Health, United States, 1989*. Hyattsville MD. DHHS Pub. No. (PHS) 90-1232, 1990. Table 44, pp. 152-153.

1989 data: US Centers for Disease Control. *HIV/AIDS Surveillance Report*. Atlanta GA. January 1989 (Table 4, p. 9) and January 1990 (Table 4, p. 10).

NOTES

Changes in new AIDS cases in the "Other/undetermined" group may be due to changes in reporting and increased precision in identification of risk.

Chart excludes children age 12 and under.

AIDS: Increasing Patient Survival

LIKE ALL VIRUSES, the human immunodeficiency virus (HIV) works by invading body cells and reprogramming their chromosomes to manufacture more of the virus. HIV targets the immune system's own cells as hosts — not only disabling the body's defense system, which is what produces the disease we call AIDS, but also perversely turning it into a virus factory.

Even if AIDS cannot yet be cured, there's hope that eventually it can be treated more like other chronic conditions. In fact, the evidence so far — even with just a few means at hand to combat AIDS-related illnesses — is that survival time is increasing.

This chart is based on a special, one-time study of patients whose first manifestation of AIDS was a bout with *Pneumocystis carinii* pneumonia (PCP). In more than 60 percent of AIDS cases, PCP is the first AIDS-related illness to occur. Since drugs are not available to cure AIDS itself, several powerful new treatments have been developed either to prevent the virus from reproducing rapidly or to prevent the occurrence of PCP.

By the end of 1987, 54 percent of AIDS patients with PCP as their first AIDS-related diagnosis were alive one year following diagnosis, compared to only 43 percent in 1984-1985. Improvement in survival is apparent among all people with AIDS, but the chart shows there are differences among risk categories. For example, survival times are shorter for intravenous drug users than for homosexual men. Those who contracted AIDS through blood transfusions also have shorter survival periods. Survival is longest for people ages 20 to 39, but declines significantly among younger and older people.

Because some of the differences in survival may be explained by increased use of therapeutic drugs, many of which are expensive, questions arise over access to AIDS treatments: Will they be sufficiently available to drug users and the inner-city poor? Do they improve the quality of life, as well as increase survival? And, is the health care system prepared to meet the needs of the growing number of people living with AIDS and HIV?

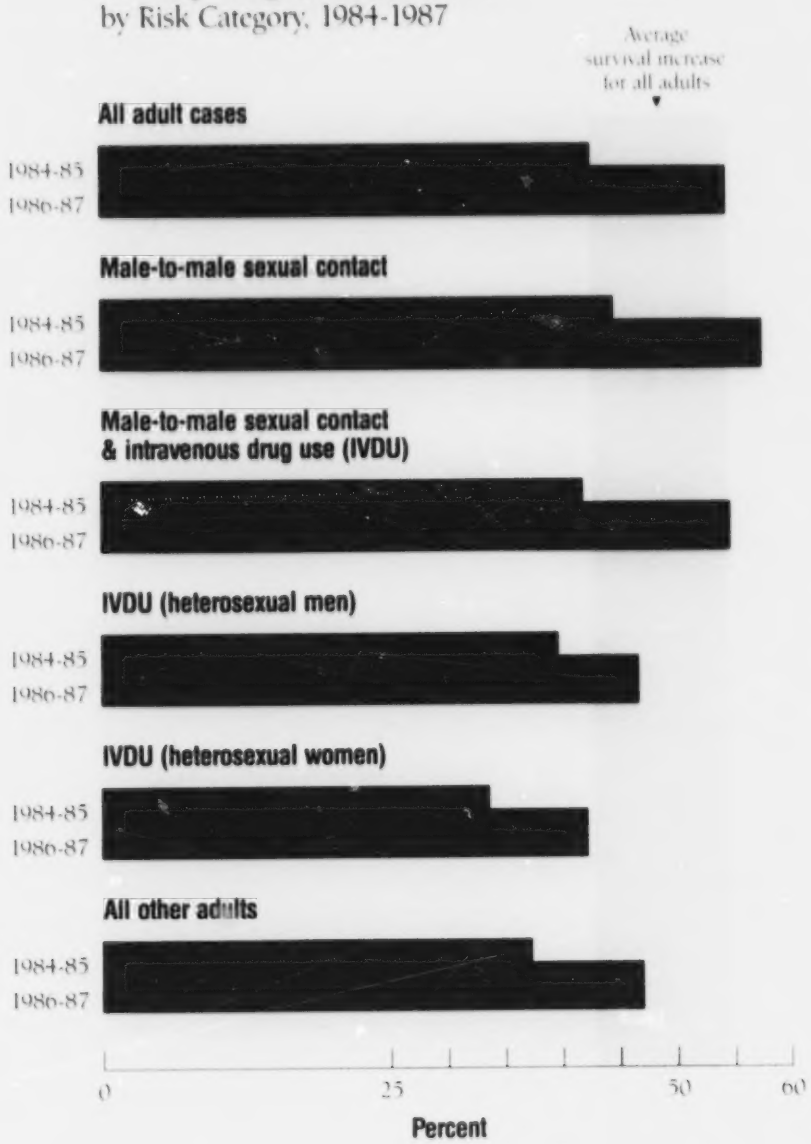
People under medical treatment for AIDS or HIV: projections

1992
141,000 to 357,000
1994
191,000 to 525,000
1996
231,000 to 636,000

AIDS: Increasing Patient Survival

19. One-Year Survival Among People with AIDS Initially Diagnosed with PCP

by Risk Category, 1984-1987



SOURCE

Harris JE. Improved Short-term Survival of AIDS Patients Initially Diagnosed With *Pneumocystis carinii* Pneumonia, 1984 Through 1987. *Journal of the American Medical Association* 263(3) 397-401, 1990. Table 2.

NOTES

"All other adults" includes transfusion recipients, non-drug using heterosexual cases, and others.

PCP stands for *Pneumocystis carinii* Pneumonia.

AIDS' Impact on Hospitals

ALTHOUGH MANY community hospitals provide care for people with AIDS, large urban public hospitals are bearing the institutional brunt of the HIV epidemic. When people with AIDS have lost their jobs and their health insurance coverage and have depleted their savings, many of them seek medical care at public hospitals, where the traditional mission is to care for the poor and disadvantaged.

In a special survey of public hospitals nationwide, researchers found that these institutions each cared for an average of 111 AIDS patients in 1987, compared to only 36 AIDS patients cared for by the average private hospital.

As the chart shows, it cost slightly less per day to treat the average AIDS patient than it did to treat the average medical/surgical patient in 1987. But costs are only half of the picture. What determines whether a hospital gains or loses money is the amount it is reimbursed — from private insurers, from Medicaid, from Medicare, from the patients themselves — for the care provided.

While private hospitals gained $16 per day on the average med/surg patient, they lost $92 per day on the average AIDS patient. Public hospitals — which lost $131 on the average med/surg patient — lost even more, $218 per day, on every AIDS patient.

By far the largest source of payment for AIDS in public hospitals is Medicaid. In 1987, 52 percent of AIDS patients in public hospitals were covered by Medicaid, compared to 31 percent in private hospitals. Only 13 percent of AIDS patients in public hospitals had private health insurance, compared to 48 percent in private hospitals. Public hospitals also reported a higher proportion of "self-pay" patients — people who are generally indigent or uninsured and who probably never will be able to pay for the care they receive. In this survey, fully 31 percent of AIDS admissions to public hospitals were self-pay, compared to 13 percent of AIDS admissions to private hospitals.

The majority of AIDS patients (62 percent) in public hospitals were intravenous drug users. The poor general health of many intravenous drug users tends to make their treatment time-consuming and complicated. Their unstable living situations and a dearth of inner-city alternatives for outpatient and long-term care force hospitals to keep some of these patients longer than medically necessary — and past the number of days insurance may cover.

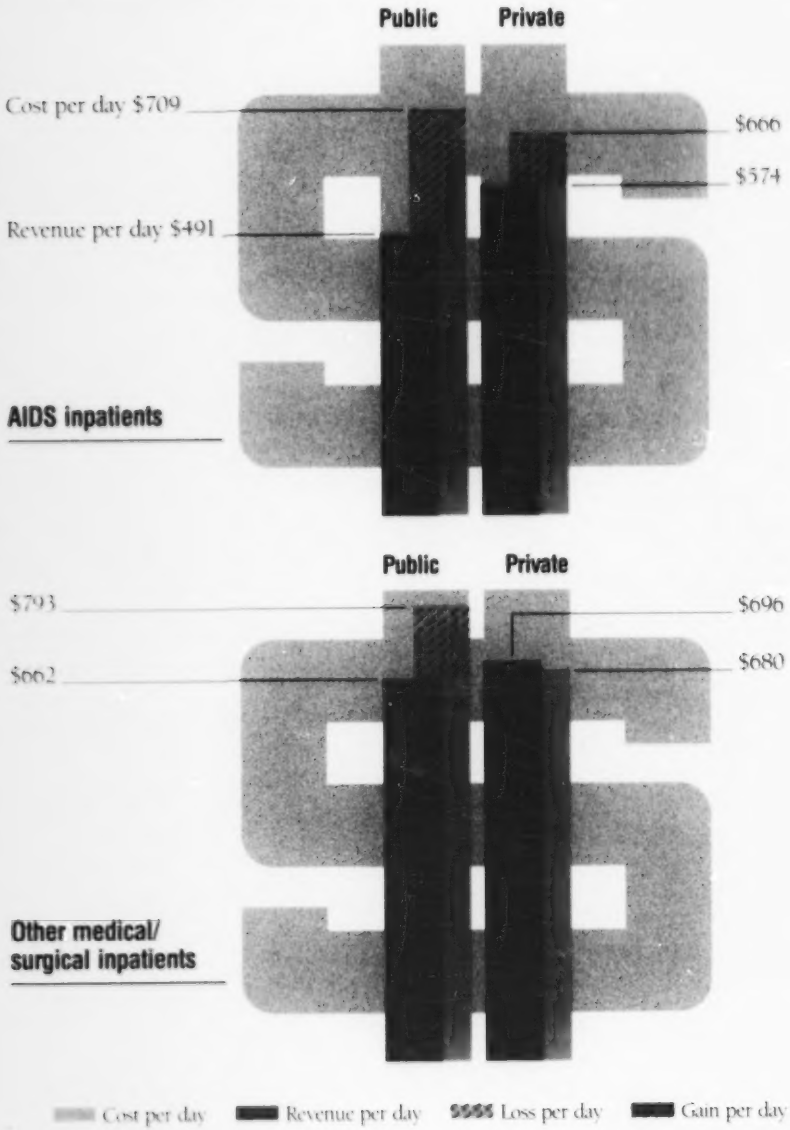
The cost per day for AIDS care is higher in public than in private hospitals, in part because of the problems just cited. Another reason is that public hospitals treat a disproportionate number of children with AIDS.

AIDS hospital costs per patient day

	Public	*Private*
Northeast	$758	$ 636
South	618	691
Midwest	764	737
West	769	1,111

20. Average Daily Costs and Revenues for AIDS and Other Patients

by Hospital Ownership, 1987



SOURCE

Andrulis DP, Weslowski VB and Gage LS. The 1987 US Hospital AIDS Survey. *Journal of the American Medical Association* 262(6):784-794, 1989. Table 7.

Paying for AIDS Care

THE FEDERAL-STATE health insurance program for the poor — Medicaid — pays 44 percent of the nation's hospital costs for AIDS. Whether people impoverished or disabled by AIDS are adequately covered under the program, however, depends to a large degree on where they live. California and New York, for example, have set liberal Medicaid eligibility requirements, while many southern states elect to cover less than a third of the population below the federal poverty line.

Moreover, even for people who are eligible, the services that are covered also vary according to state policies. Thus, Medicaid programs in the West and Northeast pay a greater share of hospital costs for AIDS than do programs in other regions. In the Northeast, for example, Medicaid pays 54 percent of these costs — covering 71 percent of AIDS care provided in public hospitals and 40 percent provided in private hospitals. In the South, where Medicaid eligibility requirements are strict and benefits scantier, Medicaid pays for only 18 percent of the AIDS care provided in public hospitals and 17 percent in private hospitals.

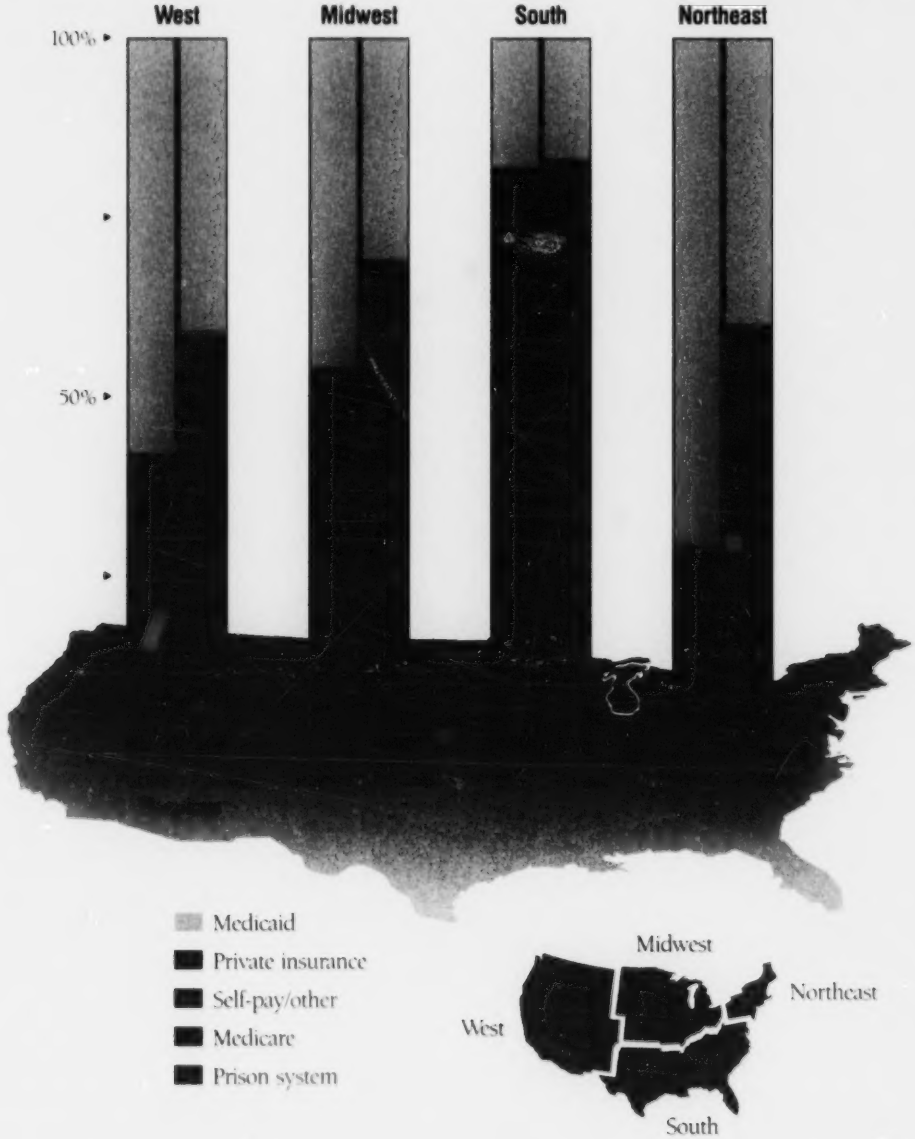
To date, Medicare pays only a small share of AIDS hospital costs — two percent — because a person must be disabled for two years before qualifying for Medicare benefits, by which time most people with AIDS have died. Increased survival of people with AIDS may change this pattern.

Private health insurance pays about 29 percent of total AIDS hospital costs, but a higher proportion in private than in public hospitals. Some insurance companies have been criticized for trying to limit AIDS claims by strictly screening applicants and by various exclusions and limitations in their policies. By 1989, 15 states had passed legislation to prohibit these practices. Employers who have self-funded insurance plans, which are not subject to state regulation, also may restrict coverage for AIDS-related illnesses.

The chart shows a large "self-pay" category in the South, which means that a great number of AIDS patients there are unprotected by either private or public insurance. (Many self-pay patients are indigent, and hospitals never receive payment for their care.) In fact, about one-fifth of people with AIDS have no health insurance at all. They are unemployed or work for small employers that do not offer this benefit. States are testing several ways to cover the health care costs of people considered "uninsurable risks," which may help hospitals serving people with AIDS.

21. Source of Payment for AIDS Hospital Admissions

by Region and Hospital Ownership, 1987



SOURCE

Andrulis DP, Weslowski VB and Gage LS. The 1987 US Hospital AIDS Survey. *Journal of the American Medical Association* 262(6):784-794, 1989. Table 5.

NOTE

"Self-pay/other" refers to patients who are uninsured or indigent.

The Federal Response to AIDS

THE FEDERAL government's annual spending on HIV-related illnesses reached $2.2 billion in 1989, bringing to $5.5 billion the total federal spending since 1982. Annual federal AIDS spending is projected to reach $4.3 billion by 1992.

Federal government spending accounts for more than one-third of the nation's total estimated AIDS expenditures. In 1992, national AIDS expenditures are expected to reach $12 billion. AIDS costs are still a small portion of projected total U.S. health expenditures — roughly 1.6 percent.

In the research and prevention areas, the level of federal government spending on AIDS is on a par with spending on other major diseases, although such comparisons are controversial. The federal government spent $1.4 billion on cancer research and prevention in 1989, $1.3 billion on AIDS and $1 billion on heart disease. At the same time, cancer was expected to cause 500,000 deaths, heart disease to cause 777,000 deaths and AIDS to cause fewer than 26,000 deaths. Public health officials' great concern about the HIV epidemic is based not just on the number of deaths, but on the infectious nature of the virus and the upward projections of the epidemic curve.

The largest portion of the federal AIDS commitment — some 40 percent — goes toward research. The research program of the National Institutes of Health, aimed primarily at understanding the disease's progression and at developing drugs and other treatments, is particularly large. It has accounted for 29 percent of all federal AIDS spending through 1989. Additional sizable AIDS research programs are conducted by the Centers for Disease Control and other Public Health Service agencies, as well as by the Defense Department and the Department of Veterans Affairs.

The second-largest federal spending category to date has been medical care — paid for primarily by Medicaid, veterans' and military programs, or the Public Health Service — consuming $751 million of the $2.2 billion spent on AIDS in 1989. Income support, through disability insurance or Supplemental Security Income, has remained a small category of spending ($329 million, or six percent of the 1982-1989 total).

For the seven-year period ended 1989, the federal government spent twice as much on AIDS research as on AIDS education and prevention. However, in 1988 and 1989 the share of dollars for these areas increased.

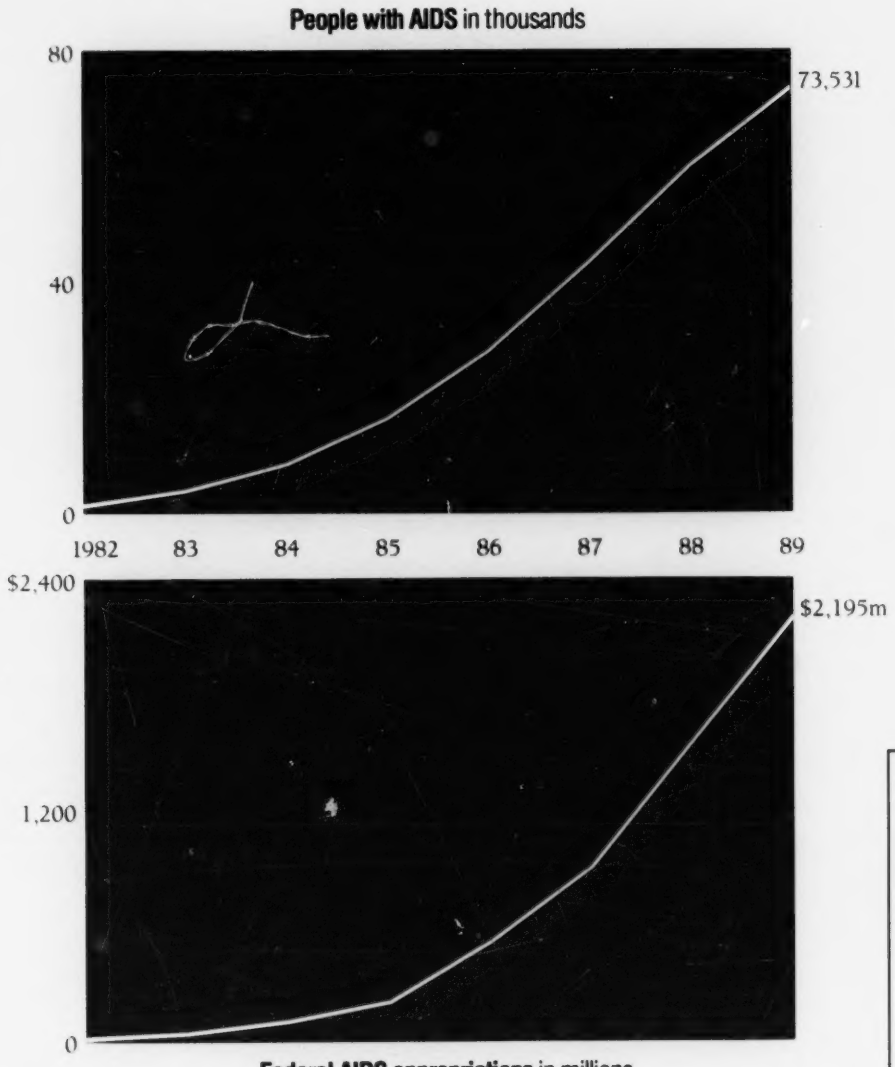
AIDS prevalence*

1982	1,318
1983	3,830
1984	8,336
1985	16,176
1986	27,736
1987	43,220
1988	59,825
1989	73,531

*The number of people with AIDS alive for all or part of the year

22. People with AIDS and Federal AIDS Appropriations

1982-1989



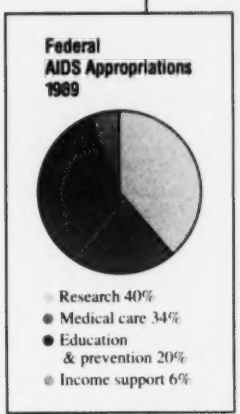
SOURCES

AIDS prevalence data: US Centers for Disease Control. *HIV/AIDS Surveillance Report*. Atlanta GA. July 1990. Table 8, p. 13.

Federal spending data: Winkenwerder W, Kessler AR and Stolec RM. Federal Spending for Illness Caused by the Human Immunodeficiency Virus. *The New England Journal of Medicine* 320 (24): 1598-1603, 1989. Table 2.

NOTE

The number of people with AIDS is all those diagnosed with AIDS who were alive for some part of a given year.



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Chaisson RE. Living with AIDS (Editorial). *Journal of the American Medical Association* 263(3):434-435, 1990.

Estimates of HIV Prevalence and Projected AIDS Cases: Summary of a Workshop, October 31-November 1, 1989. *Morbidity and Mortality Weekly Report* 39(7):110-119, 1990.

Text Chart: US Centers for Disease Control. *HIV/AIDS Surveillance Report.* Atlanta GA. January 1990.

◆ AIDS: Increasing Patient Survival

Lemp GF, Payne SF, Neal D, *et al.* Survival Trends for Patients with AIDS. *Journal of the American Medical Association* 263(3):402-406, 1990.

Text Chart: Harris JE. The New Economics of AIDS. *U.S. News & World Report* 109(7):56, 1990.

◆ AIDS' Impact on Hospitals

Andrulis DP. *Crisis at the Front Line: The Effects of AIDS on Public Hospitals.* A Twentieth Century Fund Paper. New York: Priority Press Publications, 1989.

◆ Paying for AIDS Care

Report of The Presidential Commission on the Human Immunodeficiency Virus Epidemic. Washington DC: US Government Printing Office, 1988.

◆ The Federal Response to AIDS

Text Table: US Centers for Disease Control. *HIV/AIDS Surveillance Report.* Atlanta GA. July 1990.

SUBSTANCE ABUSE

FAST FACTS

◆ In 1990: 27 percent of Americans reported they smoked cigarettes in the previous month, 51 percent drank alcohol and 6.4 percent used illicit drugs.

◆ Alcohol consumption caused an estimated five in every 100 deaths in the United States.

◆ Cigarette smoking caused an estimated 390,000 deaths in 1985.

◆ In our nation's major cities in 1988, more than 6,700 deaths were related to drug abuse.

◆ Public dollars pay half the costs of treatment for drug and alcohol abuse.

Alcohol & Illicit Drug Use

IN A NATIONAL household survey conducted in 1988, more than half of those surveyed — 53 percent — said they had used alcohol at least once in the previous month. A much smaller proportion — just over seven percent — said they had used an illicit drug at least once in the previous month.

Of course, the responses to these two survey questions encompass a wide range of use — from the casual drinker or drug user who indulges at social occasions to the dependent or addicted substance abuser who is dysfunctional and estranged from family and friends. In between are people who regularly use substances without addiction or who have a catastrophic experience — like an automobile crash — on one occasion. Moreover, these survey results do not reflect the experience of people who are homeless, institutionalized or typically omitted from household surveys.

Alcohol, cigarettes and marijuana are usually the first substances teenagers try, with the year of entering high school a peak period for experimentation. In a 1989 survey of high school seniors, most who had ever used drugs or alcohol reported doing so by the ninth grade: alcohol (65 percent), marijuana (55 percent), cocaine (23 percent) and cigarettes (79 percent).

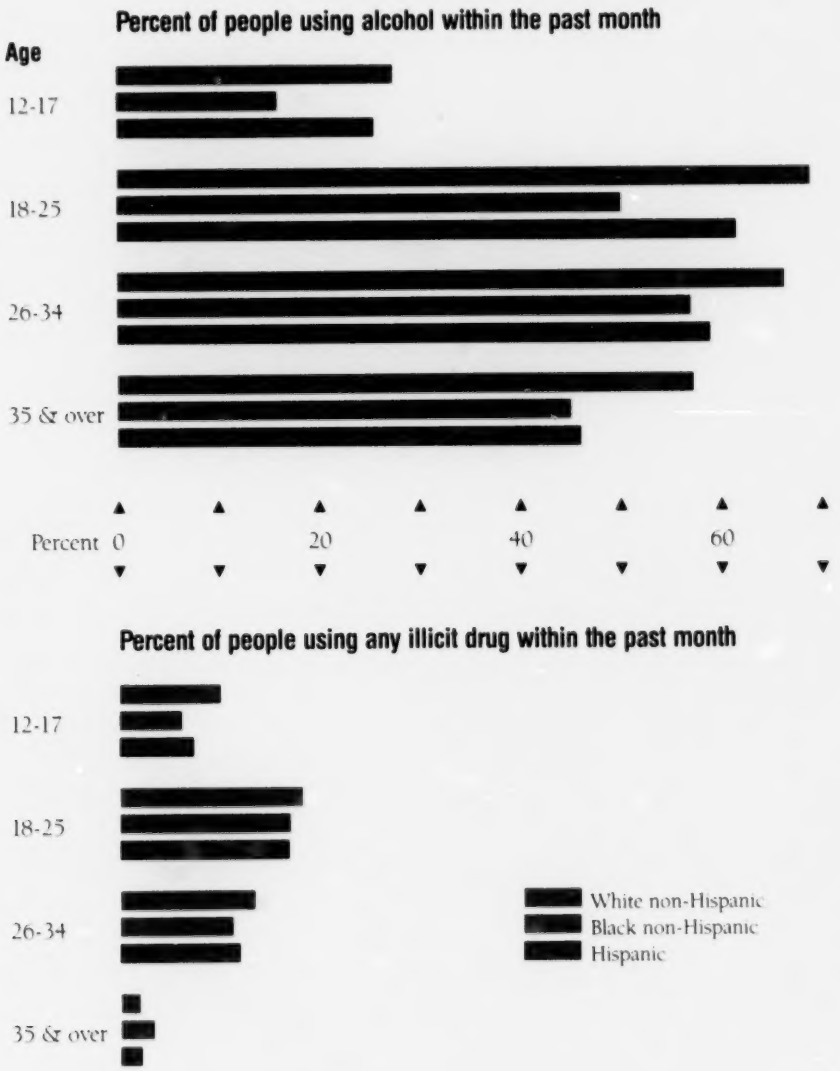
What is most striking about the chart is that the use of drugs and, to a lesser degree, alcohol, is largely a phenomenon of young adulthood. After age 35, the use of illicit drugs drops dramatically, and a smaller, but still notable, drop in the use of alcohol also occurs. For example, 18 percent of whites, nearly 17 percent of Hispanics and almost 17 percent of blacks ages 18 to 25 said they had used an illicit drug in the previous month. Among those over 35, only 1.8 percent of whites, 2.2 percent of Hispanics and 3.3 percent of blacks reported such use.

The age differential is less dramatic for alcohol use. As the chart shows, the rate of drinking peaks for whites and Hispanics between ages 18 and 25 and for blacks between ages 26 and 34.

Traditionally, Hispanics have had lower rates of drinking than non-Hispanic whites, but their alcohol use rates are rising. Hispanic women are considerably less likely to drink than are non-Hispanic white women; however, more of today's young Hispanic women are drinking than in earlier generations. Among blacks of all ages and both sexes, alcohol consumption is lower than among whites.

23. Recent Users of Alcohol and Drugs

by Age and Race/Ethnicity, 1988



SOURCE

US National Institute on Drug Abuse. *National Household Survey on Drug Abuse: Population Estimates 1988*. Rockville MD. DHHS Pub. No. (ADM)89-1636, 1989. Tables 2-B through 2-D, pp. 18-19, and Tables 13-B through 13-D, pp. 84-85.

NOTE

"Any illicit drug" includes marijuana, inhalants, cocaine, heroin, hallucinogens or psychotherapeutic drugs used for non-medical purposes.

Alcohol, Cigarette & Cocaine Use

MASSIVE EDUCATION campaigns in recent years have increased public awareness of the dangers of drinking, smoking and drug use. News stories about drug-related crime, crack-addicted babies, drunk-driving tragedies and the family legacy of alcoholism — as well as mounting evidence on the health effects of passive smoking — make it painfully clear that substance abuse has a negative impact on all of society, not just on users.

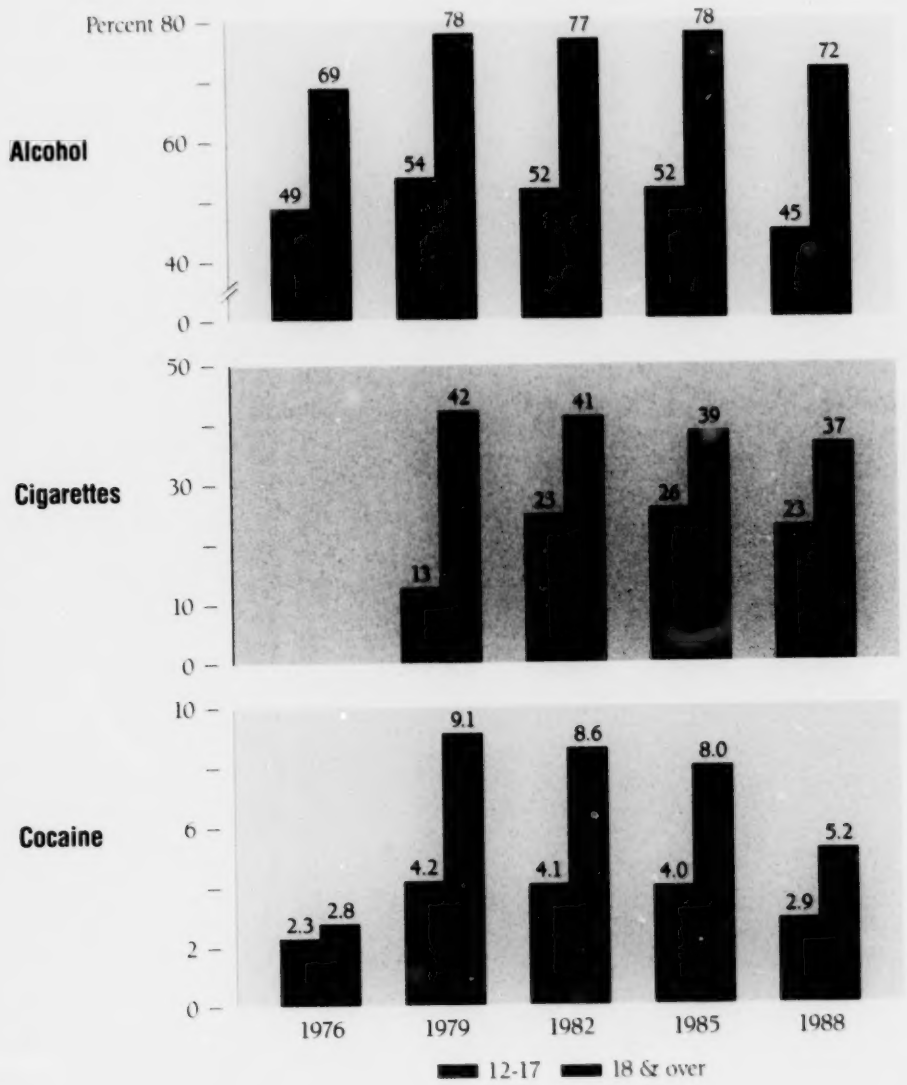
The prevalence of drinking, smoking and cocaine use is down, according to household surveys (which do not include people who are homeless or in institutions). This conclusion is based on the percentages of Americans who reported using alcohol, cigarettes or cocaine in the previous year. Surveys of this type, which have been conducted regularly since 1974, indicate that rates of use for all three substances peaked around 1979 and have declined ever since. Use of crack (smokable cocaine) — estimated in a 1990 national survey — has stayed stable, even though cocaine use overall has diminished.

The per capita consumption of alcohol dropped to 2.54 gallons of pure alcohol in 1987, the lowest level since 1970. The decline in per capita consumption may be due to the aging of the population, the public's preoccupation with fitness and health, and a greater preference for beverages with lower alcohol content. Nevertheless, the number of alcoholics is expected to increase from 10.5 million in 1985 to 11.2 million by 1995. The number of people having serious problems with alcohol, short of being alcohol-dependent, is expected to remain stable at 7.2 million.

The prevalence of cigarette smoking has dropped in many groups, but most dramatically among men. Proportionately more black men than white men currently smoke, but that may be related to factors other than race, such as income or education. Among college graduates, for example, smoking decreased from 34 percent in 1966 to 16 percent in 1987, while it was unchanged — 36 percent — among adults who had not graduated from high school.

24. Percent of People Using Alcohol, Cigarettes or Cocaine in Previous Year

by Age, Selected Years, 1976-1988



SOURCE

US National Institute on Drug Abuse. *National Household Survey on Drug Abuse: Highlights 1988.* Rockville MD. DHHS Pub. No. (ADM)90-1681, 1990. Tables A.5, p. 63; A.8, p. 64; A.11, p. 66.

NOTES

1979 data on cigarette smokers include only those people who ever smoked at least five packs. All other years include people who reported smoking at least one cigarette in the past year.

Data on cigarette smokers not available for 1976.

Health Impact of Alcohol Use

THE HEALTH consequences of alcohol use are wide-ranging and complex. Chronic long-term abuse of alcohol may lead to liver damage, cardiovascular diseases, neurologic disorders, gastrointestinal diseases and certain cancers. Some 10 percent to 20 percent of heavy drinkers develop cirrhosis, the nation's ninth leading cause of death in 1988. In fact, alcohol is considered the main cause of death in nearly five out of every 100 deaths.

Most alcohol-related deaths are due to motor vehicle injuries. In 1987, 48,290 Americans died from motor vehicle injuries, and alcohol use was a factor in 42 percent of these deaths. Motor vehicle injuries are the leading cause of death for young people, accounting for about 40 percent of all deaths among teenagers 15 to 19. After the drinking age was raised to 21 in all states, the number of teen auto fatalities involving alcohol decreased 32 percent — from 2,187 in 1982 to 1,494 in 1987.

Alcohol use also is a contributing factor in many injuries and deaths from falls — which account for approximately 12,000 deaths per year — and in drownings and fatal fires.

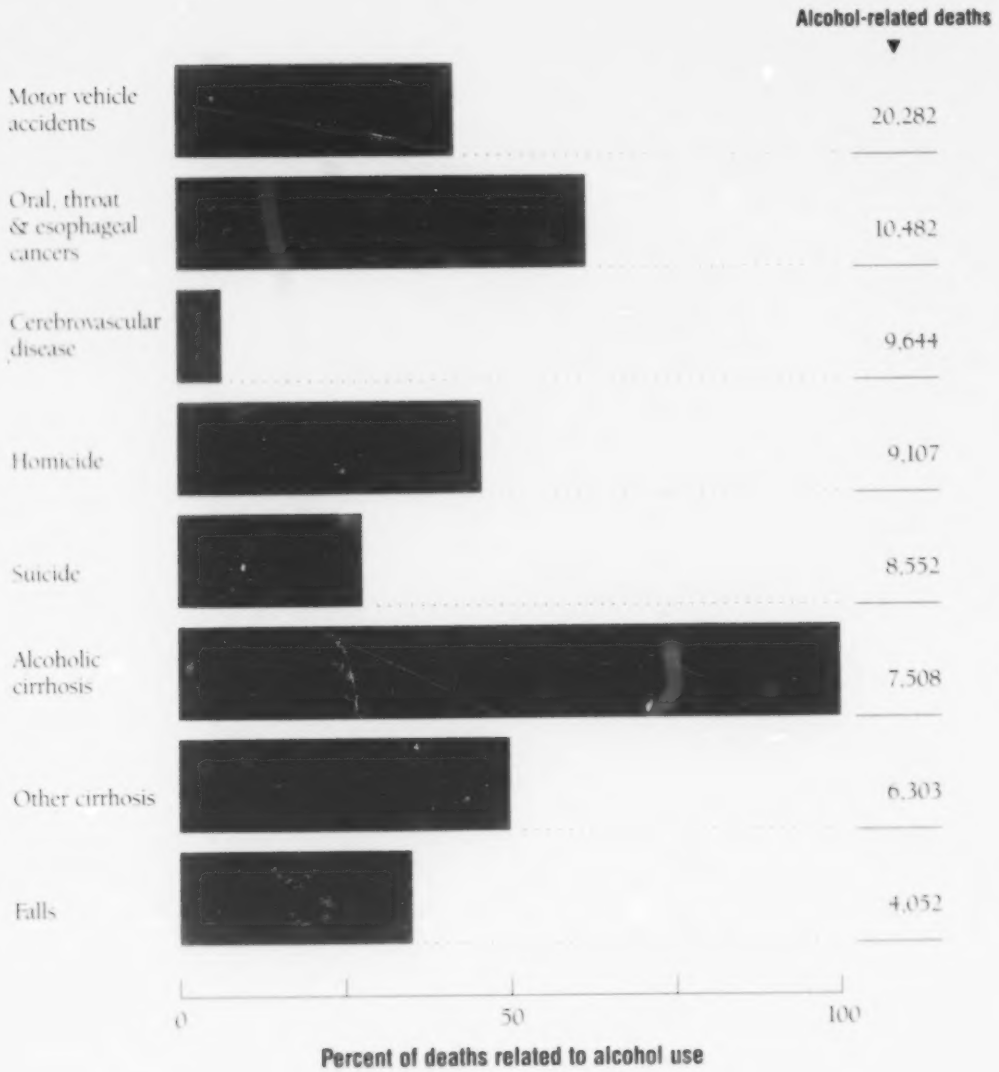
Evidence links alcohol use with violence — homicide, suicide, family violence and other violent crimes. In 1987, alcohol was a factor in 46 percent of homicides and 28 percent of suicides among people over age 15. Some 20 percent to 36 percent of people who committed suicide had a history of alcohol abuse or were drinking shortly before taking their lives. About half of inmates incarcerated for violent crimes say they committed these acts when they were under the influence of alcohol, drugs or both.

Limiting the number of establishments permitted to sell alcohol, increasing law enforcement, suspending drivers' licenses for short (12-hour) periods for people who show evidence of drinking and providing training for bartenders and servers are some of the ways states and localities are trying to reduce injuries and fatalities related to alcohol.

One of the most insidious adverse effects of alcohol occurs during pregnancy. Fetal alcohol syndrome (FAS) is the leading preventable cause of birth defects and mental retardation, affecting as many as three infants in every 1,000. Even when consumed in quantities smaller than those that cause FAS, alcohol is associated with birth defects, low birthweight, learning disabilities and neurological deficits.

25. Deaths Related to Alcohol Use

by Cause, 1987



SOURCE

US Centers for Disease Control. *Morbidity and Mortality Weekly Report*. Vol. 39, No. 11. Atlanta GA. March 23, 1990. Table 1, p. 174.

Health Impact of Illicit Drug Use

DRUG USE WAS a direct or contributing cause in 6,756 deaths in major U.S. cities in 1988, with accidental overdose the most common cause. Over 70 percent of these deaths were among men. Medical examiners cite cocaine, alcohol in combination with another drug, heroin/morphine, codeine, diazepam (Valium) and methadone as the top six drugs causing fatalities. Some 56 percent of fatal drug overdoses involve multiple drugs.

More than half of all drug-related deaths occur in the baby boom cohort, ages 30 to 44. In people over 60, they are rare, and the majority are considered suicides.

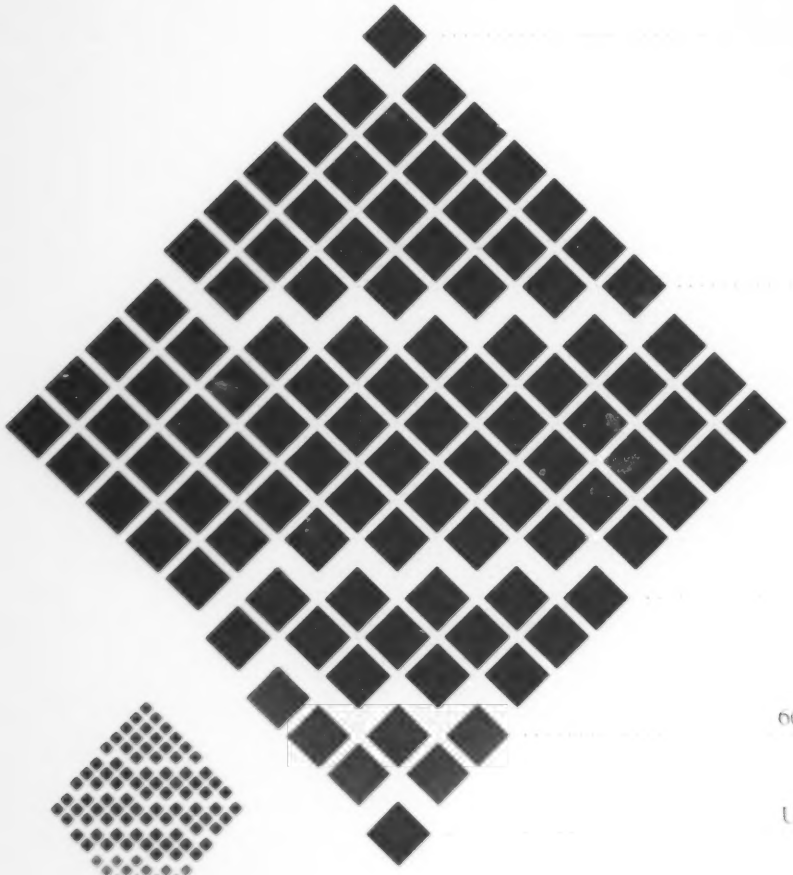
Not included in these mortality statistics — but of great concern to most Americans — are deaths from violent crime linked to drug use and the drug trade. According to a 1986 survey of state prisons, 28 percent of inmates convicted of murder and 32 percent of inmates convicted of rape were under the influence of drugs, alcohol or both at the time of their offense.

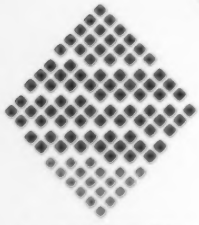
A special problem is the link between intravenous drug use and AIDS. In fact, the HIV epidemic is growing fastest among intravenous drug users. Studies of drug users in treatment centers across the United States have found a wide range of HIV infection rates, from five percent in some areas to 65 percent in some Northeast centers.

Drug use also threatens the next generation of Americans, contributing to low birthweight and premature birth. The full effects of drug use on infant health are unclear, since they often are intertwined with problems arising from poor maternal health and nutrition. In some communities, one of every 10 infants is born to a mother who used illicit drugs during pregnancy. A National Association of State Alcohol and Drug Abuse Directors survey shows that only 12 percent of pregnant women who need substance abuse treatment actually receive it.

26. Deaths Related to the Use of Illicit Drugs

by Age, 1988





Age distribution of the population over age 6, 1988

SOURCES

US National Institute on Drug Abuse. *Data from the Drug Abuse Warning Network (DAWN), Annual Data 1988*. NIDA Statistical Series, Series I, No. 8. Rockville MD. DHHS Pub. No. (ADM)89-1634, 1989. Table 3.01, p. 48.

US Bureau of the Census. *U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1988*. Current Population Reports, Series P-25, No. 1045. Washington DC. 1990. Table 2, p. 52.

NOTES

Mortality data are drawn from medical examiner reports from 27 US metropolitan areas.

"Drug abuse-related deaths" include deaths from drug overdoses and deaths in which drugs were a contributing factor.

Health Impact of Cigarette Smoking

MORE THAN one in every six deaths in the United States is associated with cigarette smoking. While the percentage of Americans who smoke has declined steadily since 1965, as fewer people take up the habit, many of those who smoked in 1965 continue to do so. In 1985, about 94 million Americans had a history of regular cigarette smoking, placing them at greatly increased health risk.

Cigarette smoking accounts for 21 percent of all deaths from coronary heart disease and 87 percent of deaths due to lung cancer. Smoking also is associated with stroke and cancers of the esophagus, cervix, kidney, bladder and larynx.

Between 1965 and 1985, there was a marked increase in the number of women smokers entering the over-60 age group — the group that suffers the highest incidence of smoking-related diseases. (The number of men over 60 who currently smoke has remained relatively stable.) In 1964, lung cancer was the fifth leading cause of cancer mortality among women, but now the number of deaths from lung cancer exceeds deaths from breast cancer, formerly the leading cancer among women. Although lung cancer death rates have leveled off in men since the late 1970s, for women they are still rising, the result of a large increase in smoking among women after World War II. Mortality from other smoking-related chronic lung diseases (such as emphysema, bronchitis and asthma) has been rising for men and women since 1979, but again more dramatically for women.

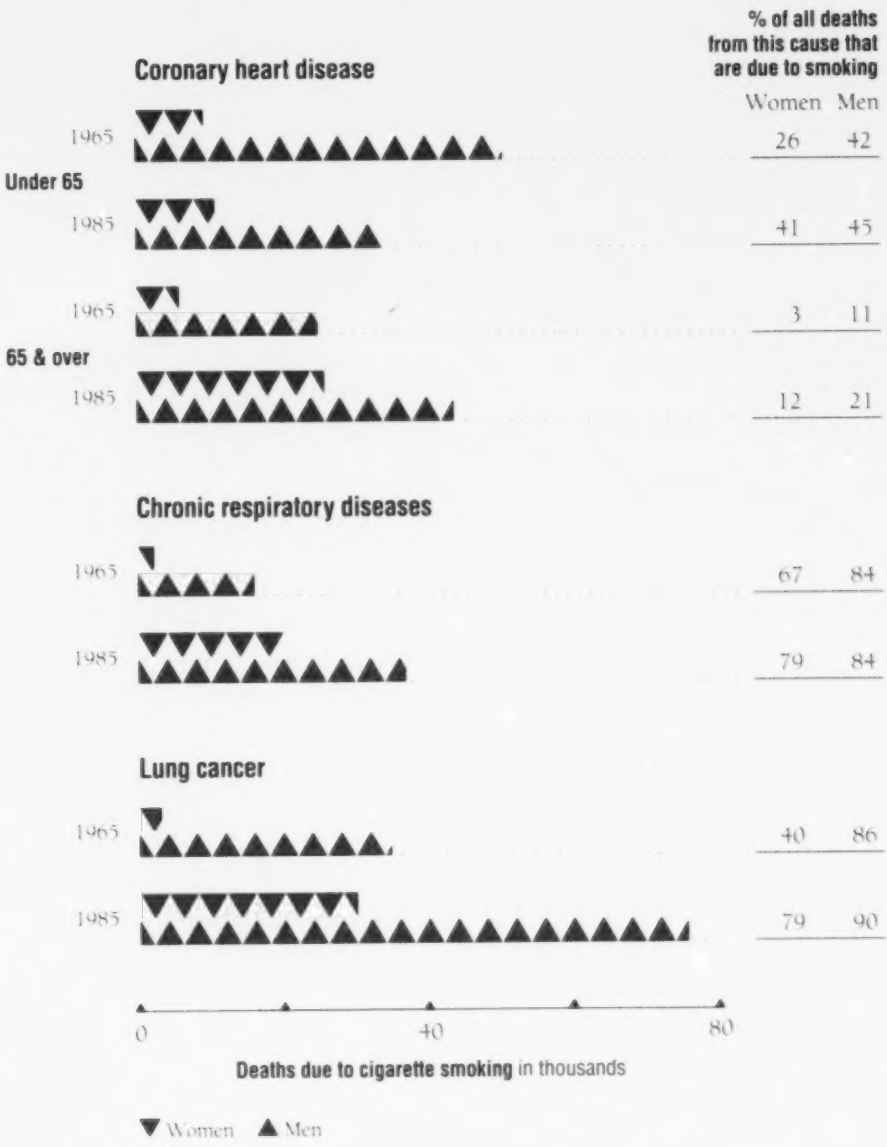
Smoking is only one of the risk factors for coronary heart disease (CHD). Overall, death rates from CHD have declined significantly since 1950, but the drop has been greater in nonsmokers. In fact, smokers have a 70 percent greater risk of dying from CHD than do nonsmokers.

The health risks of smoking are not confined to the smoker. Pregnant women who smoke put their infants at greater risk for low birthweight, premature birth and death. Passive or involuntary smoking has been associated with lung cancer in nonsmokers and with respiratory diseases in children. Cigarette smoking causes 17 percent of fatal residential fires.

In 1985, an estimated 390,000 deaths were associated with smoking. Between 1964 and 1985, nearly 800,000 smoking-related deaths were avoided or postponed as a result of people's decisions to quit smoking or not to start. Because it takes a long time to develop smoking-linked health problems, Americans will continue to reap the health benefits of today's lower smoking rates far into the future.

27. Deaths Related to Cigarette Smoking

for Selected Causes by Gender, 1965 and 1985



SOURCE

US Centers for Disease Control. *Reducing the Health Consequences of Smoking: 25 Years of Progress: a report of the Surgeon General*. Rockville MD. DHHS Pub. No. (CDC)89-8411, 1989. Tables 9 through 12, pp. 154-158.

Who Receives Substance Abuse Treatment?

SOME 12 PERCENT of people with serious drug or alcohol problems receive treatment in detoxification units, residential centers, methadone clinics, outpatient programs, hospitals or other facilities. Many more seek treatment in informal settings like Alcoholics Anonymous, for which data are not available.

While some substance abusers are forced to seek treatment because of drunk driving charges or other offenses (the state of California even uses the civil commitment process to get drug addicts into treatment), the vast majority obtain help on their own — often after intense pressure from family, friends, employers or legal authorities.

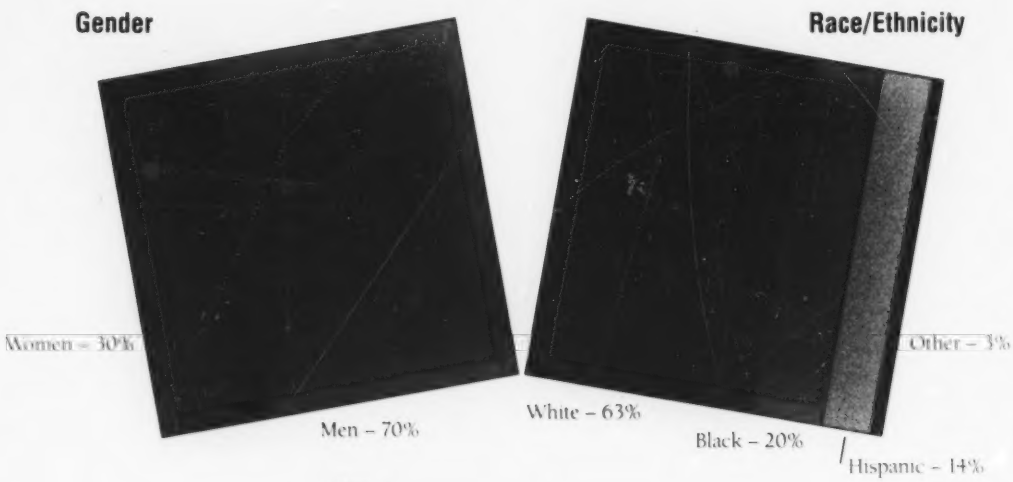
Some 20 percent of the nation's available drug and alcohol treatment capacity is unused. But that doesn't mean there are enough treatment resources, because much of the unused capacity is in private programs that treat people who have health insurance or can pay for care out-of-pocket. In overburdened public programs, by contrast, substance abusers are being turned away. A 1989 survey of publicly funded drug treatment programs determined that nationally there was a waiting list of about 67,000 people; the average number of days between a request for treatment and admission to a program was 45 days for residential programs and 22 days for outpatient programs. In some large cities, the situation is much worse, and many people cannot even get on waiting lists.

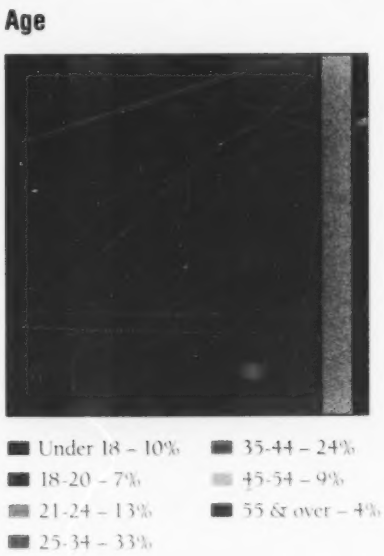
A one-day census conducted by the federal government on September 30, 1989, found 735,000 Americans in drug and alcohol treatment — 351,000 for drug abuse and 384,000 for alcoholism. The survey also found that the majority of people — 85 percent or more — were in outpatient treatment, although inpatient treatment accounts for most treatment costs.

About 70 percent of people in treatment were between ages 21 and 44. Alcohol units had a greater proportion of clients over age 45 than did drug units, while drug units had a greater proportion of clients under 18. Blacks constituted 26 percent and Hispanics 18 percent of drug abuse clients; they made up 15 percent and 11 percent of alcohol abuse clients, respectively. Whites accounted for 54 percent of drug abuse clients and 70 percent of alcohol abuse clients.

28. Characteristics of Clients in Substance Abuse Treatment

by Gender, Race/Ethnicity and Age, 1989





SOURCE
US National Institute on Drug Abuse and US National Institute on Alcohol Abuse and Alcoholism. *Highlights From The 1989 National Drug and Alcoholism Treatment Unit Survey (NDATUS)*. Rockville MD. 1990. Table 6, p. 6.

Paying for Substance Abuse Treatment

IN FISCAL 1989, as the chart shows, private insurance provided 31 percent of the reimbursement for alcohol and drug treatment. U.S. companies — because of mandated health insurance benefits in their states or through their own initiative — until recently had been picking up more and more of the costs of substance abuse treatment. Employers with programs to assist affected employees often refer them to substance abuse programs covered by their health benefits plans.

Public third-party payers, such as military benefits programs, Medicaid and local welfare agencies — provided 16 percent of substance abuse treatment reimbursement in 1989, and direct payments by clients accounted for 12 percent. Medicaid is playing an increasing role in reimbursing treatment for pregnant women who are substance abusers.

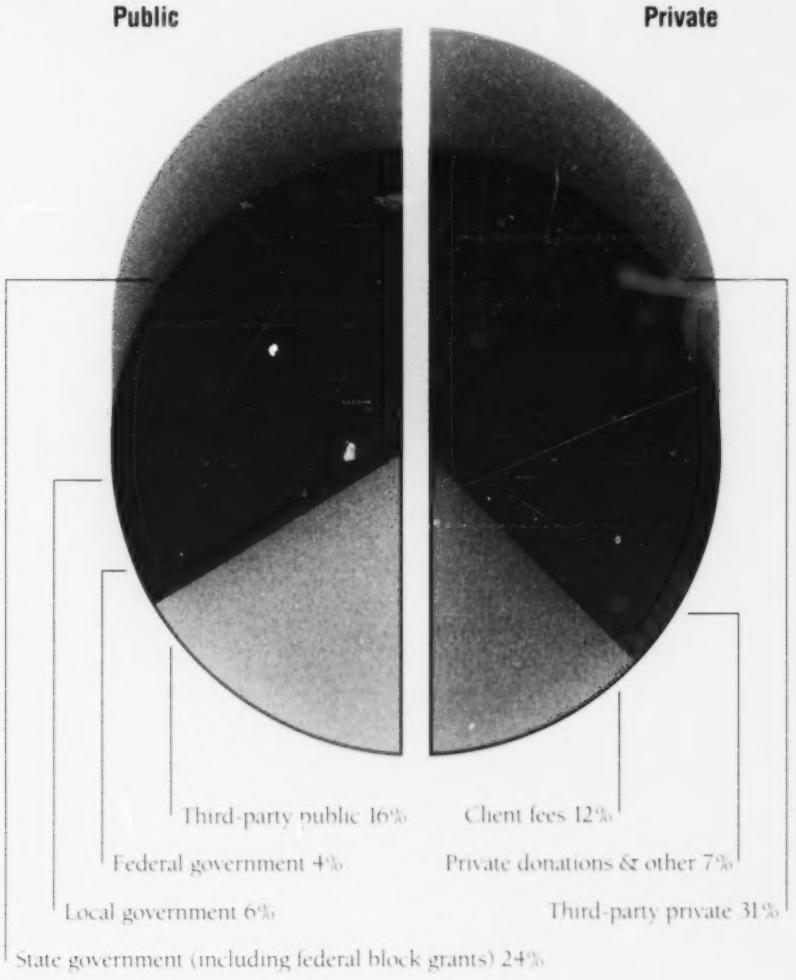
In total, fee-for-service reimbursement from all sources provided just under 60 percent of the funding for alcohol and drug treatment programs, while grants from local, state and federal government provided about a third.

Claims for the substance abuse and mental health portions of many private insurance plans are accelerating faster than routine health benefits payments. This has led employers to try to apply many of the cost-containment strategies in place for general medical care to the mental health and substance abuse areas.

Cost-consciousness also is prompting a reevaluation of the effectiveness of substance abuse treatment. In particular, the cost of the standard 28-day inpatient stay for substance abuse is being scrutinized. For many people there may be no particular advantage to hospitalization, and residential or outpatient treatment may be not only less expensive, but equally effective, as well. Research is needed to identify which kind of treatment is most effective for different types of people. The ability to "match" people to interventions is bound to increase treatment programs' cost-effectiveness.

29. Funding Sources for Alcohol and Drug Treatment

Fiscal Year Ending September 30, 1989



SOURCE

US National Institute on Drug Abuse and US National Institute on Alcohol Abuse and Alcoholism. *Highlights From The 1989 National Drug and Alcoholism Treatment Unit Survey (NDATUS)*. Rockville MD. 1990. Table 8, p. 8.

NOTE

"Third-party public" includes Medicaid, military benefits and client fees paid directly by state and local government.

The Federal Drug Control Response

IN 1989, WITH mounting evidence that drug abuse had reached crisis proportions in the United States, the White House announced the National Drug Control Strategy, an effort to put unprecedented pressure on drug producers, suppliers, traffickers, offenders and users. The federal government spent $6.3 billion on its national strategy in 1989, and in 1990 spending increased 50 percent — to $9.5 billion.

The classic economic terms "supply" and "demand" often are used to describe two basic approaches to drug control. One emphasizes blocking the supply of drugs largely through law enforcement; the other emphasizes reducing the demand for drugs through prevention and treatment. In both 1989 and 1990, as in previous years, the federal strategy leaned heavily on law enforcement, with roughly 70 percent of its drug control budget spent on supply reduction and 30 percent on demand reduction.

In 1990, the largest categories of federal spending were interdiction ($2 billion), which attempts to deter drug smuggling by seizing illegal drug shipments, and prosecution and corrections ($2.4 billion).

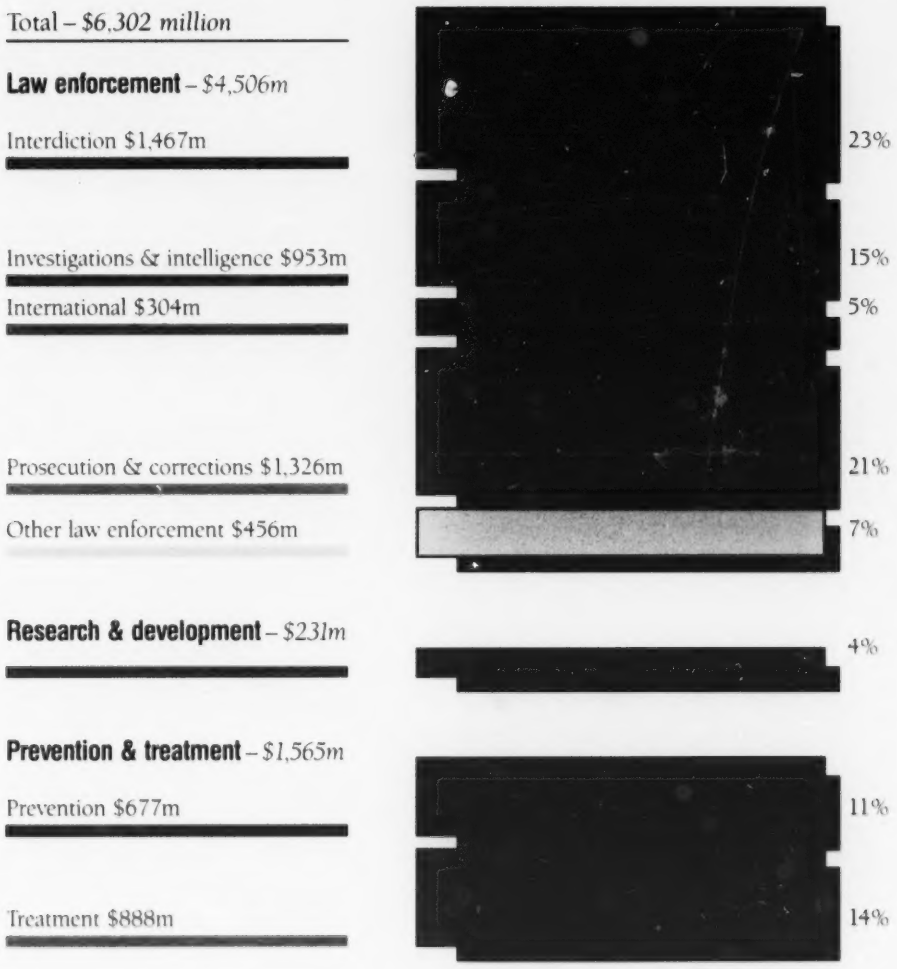
By contrast, treatment and prevention accounted for only $1.3 billion and $1.1 billion, respectively. While some critics believe more resources should be spent in this area, experts increasingly recognize that both supply- and demand-reduction approaches are required to solve the problem. Prevention and treatment programs are difficult to carry out in the presence of a cheap and abundant supply of drugs; likewise, tough criminal justice is not effective without good treatment programs.

1990 federal drug control appropriations

	Dollars in millions	%
Law enforcement	$6,710.3	71
Treatment & prevention	$2,455.4	26
Research & development	$ 317.5	3

30. Federal Expenditures on Drug Control

by Type of Activity, 1989



SOURCE

The White House, Office of National Drug Control Policy. *National Drug Control Strategy: Budget Summary.* Washington DC. 1990. Pp. 9-12.

NOTE

"Other law enforcement" includes state and local assistance, and regulation and compliance.

ADDITIONAL SOURCES

◆ Alcohol & Illicit Drug Use

Johnston LD, *et al. Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth.* 1989 survey results. Ann Arbor: University of Michigan Institute for Social Research, 1990.

◆ Alcohol, Cigarette & Cocaine Use
Health Impact of Alcohol Use

National Institute on Alcohol Abuse and Alcoholism. *Alcohol and Health.* Seventh Special Report to the US Congress. DHHS Pub. No. (ADM)90-1656, 1990.

Williams GD, Stinson FS, Parker DA, *et al.* Demographic Trends, Alcohol Abuse and Alcoholism, 1985-1995. *Alcohol Health and Research World*, Spring 1987.

◆ Health Impact of Illicit Drug Use

Hahn RA, Onorato IM, Jones S and Dougherty J. Prevalence of HIV Infection Among Intravenous Drug Users in the United States. *Journal of the American Medical Association* 261(18):2677-2684, 1989.

US Department of Justice, Bureau of Justice Statistics. *Profile of State Prison Inmates, 1986.* Washington DC, NCJ-109926, 1988.

◆ Who Receives Substance Abuse Treatment?

1989 survey results, National Association of State Alcohol and Drug Abuse Directors, Suite 520, 444 N. Capitol Street NW, Washington DC 20001.

◆ Paying for Substance Abuse Treatment

Institute of Medicine. *Treating Drug Problems.* Washington DC: National Academy Press, 1990.

CHRONIC ILLNESS & DISABILITY

FAST FACTS

◆ In 1989, 14.1 percent of the population reported that they had to limit their regular activities due to a chronic health condition.

◆ Acute or chronic conditions kept Americans bed-bound an average of 6.5 days per person and caused them to lose an average of 5.7 days of school or work in 1989.

◆ Among people too disabled to work, almost 17 percent have no health insurance.

82

People with Chronic Conditions

CHRONIC CONDITIONS are responsible for a large portion of people's health care needs. People with heart disease, mentally retarded people, children with juvenile diabetes, allergy sufferers and adults with multiple sclerosis have one thing in common: chronic conditions that may require frequent visits to health care providers for long-term treatment. Chronic conditions can be disabling — as in the case of arthritis or multiple sclerosis — but may not be, depending on their type and severity.

This chart shows the prevalence of four of the most common chronic conditions — arthritis, hypertension, diabetes and respiratory diseases, such as asthma, emphysema and bronchitis. About 30 million Americans have arthritis, 29 million have hypertension, six million have diabetes and 21 million have respiratory diseases.

The prevalence of chronic conditions varies among population groups: Diabetes, for example, is more common among blacks, and arthritis rates are dramatically higher among women. In fact, many chronic conditions are more prevalent among women. One reason is that many of these disorders are associated with aging, and women generally live longer than men. All four chronic conditions included in the chart are more common in older people, as the table to the left shows.

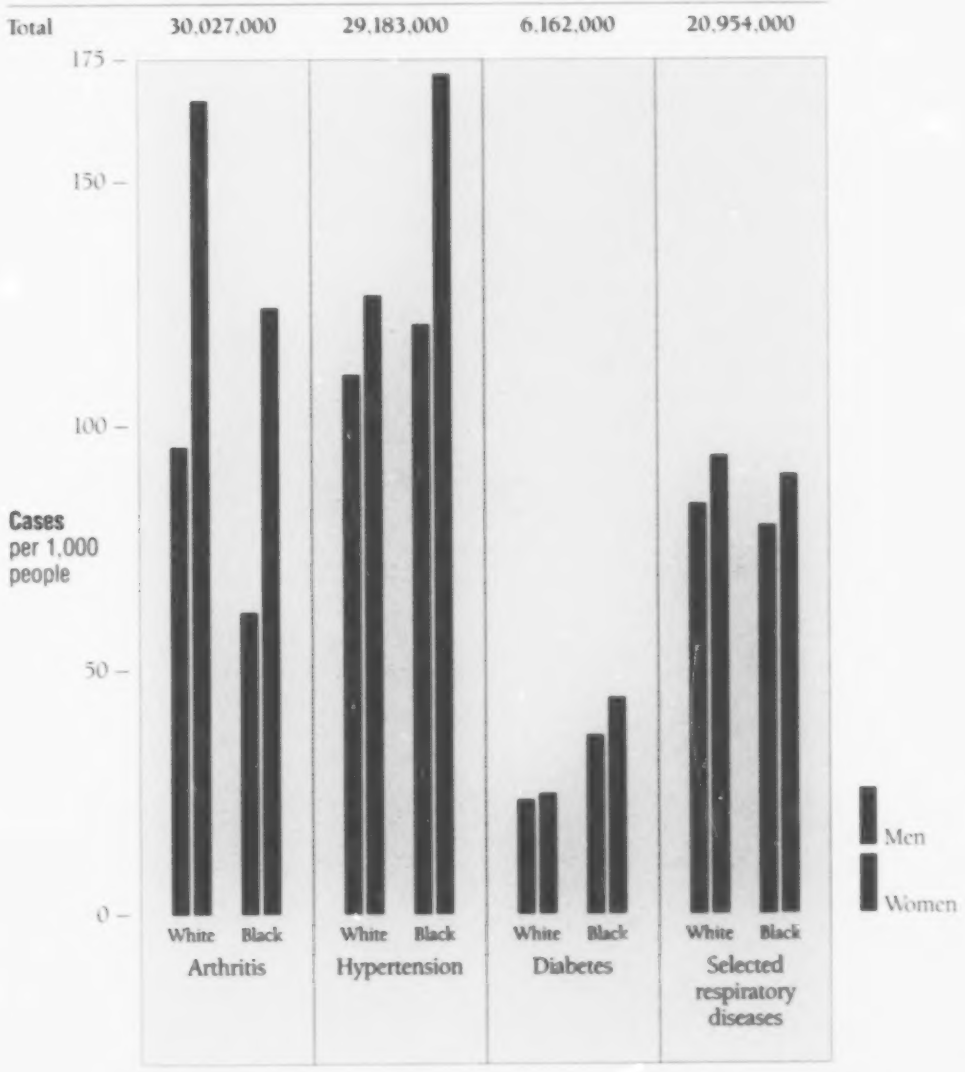
Historically, private insurance and Medicare have paid for acute care services and skirted chronic care. With the aging of the U.S. population, paying for long-term care for people with chronic conditions is one of our health care system's foremost unresolved problems.

Prevalence of chronic conditions, 1988

	Cases per 1,000 people	
	Ages	
	18-64	65+
Arthritis	112	461
Hypertension	124	373
Selected respiratory diseases	78	120
Diabetes	23	92

31. Prevalence of Selected Chronic Conditions

by Race and Gender, 1988



SOURCE
Unpublished data from the US National Center for Health Statistics, Division of Health Interview Statistics, with analysis by the Environmental Studies Branch.

NOTE
Data are not age-adjusted.

People with Disabilities

DISABILITY MEANS a long- or short-term reduction in a person's ability to engage in normal activities. A disability may result from a congenital problem, a chronic disease or condition, an acute illness, an injury or aging. The assembly line worker who is unable to return to his job because of a wrist injury, the child with leukemia who misses school and the elderly woman with a hip fracture who is unable to bathe herself all have a disability.

This chart is based on people's own assessments of the degree to which disability affects them, as measured by "activity limitation." For children, the major activity is play or attending school; for those of working age, it is work or homemaking; and for those 65 and over, it is living independently. People with "some limitation" have problems with their major activity or need help performing other important activities, such as dressing, shopping, preparing meals, managing finances or using the telephone.

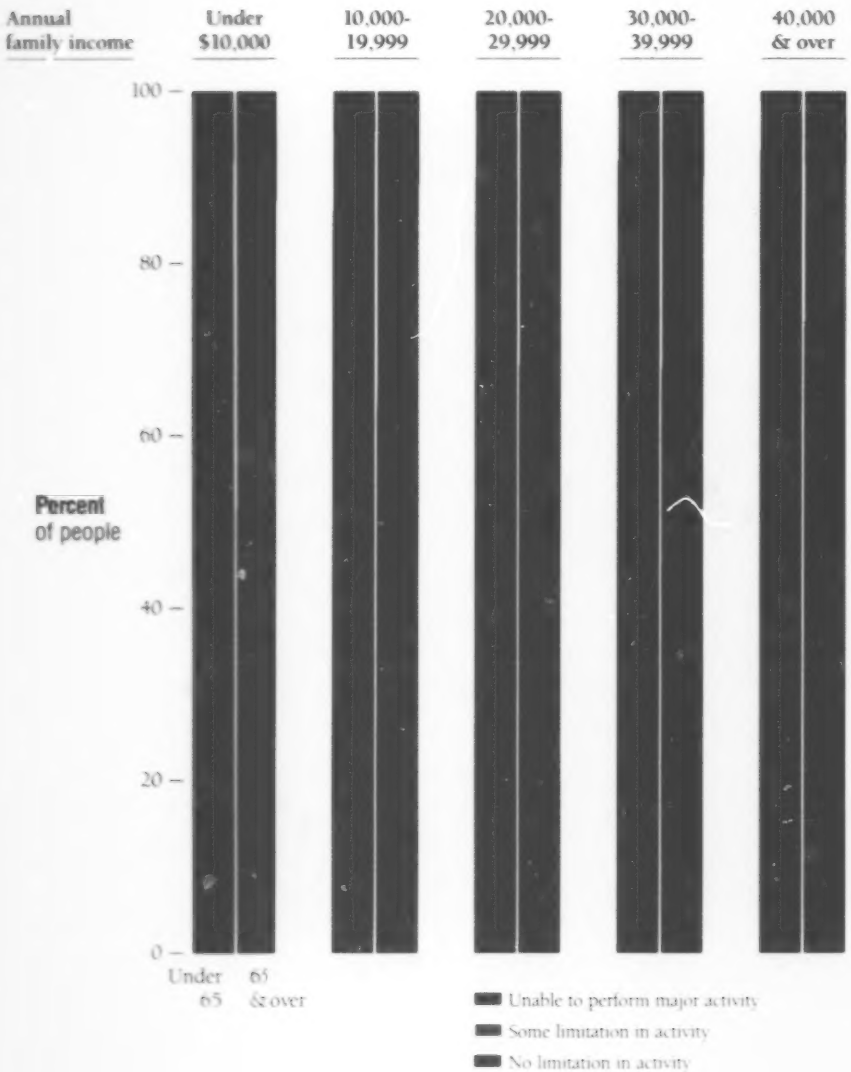
The chance of having an activity limitation rises with increasing age: Among noninstitutionalized Americans 65 and over, 37 percent (10.6 million people) report some limitation in activity, compared to 11 percent of people under 65 (22.5 million).

Activity limitations are reported more frequently among low-income groups. About 20 percent of people under 65 who earn less than $10,000 annually have disabilities, compared to only seven percent to eight percent of people earning at least $30,000 per year. The higher prevalence reflects several factors: Low-income people may be more likely to be disabled because of hazardous occupations or unsafe living conditions; they may be less likely to obtain the medical care that might lessen or correct their disabilities; or, they may be unable to earn higher incomes because of their disabilities.

People with disabilities have recurring health care needs and higher medical costs. Because of the uncertainties of private insurance — limitations on coverage and possible cancellation if employment ends — many people with disabilities must, as a practical matter, choose *not* to work, so that they stay eligible for public insurance programs.

32. Prevalence of Disabilities

by Age and Income, 1988



SOURCE
Unpublished data from the US National Center for Health Statistics, Division of Health Interview Statistics, Illness and Disability Statistics Branch

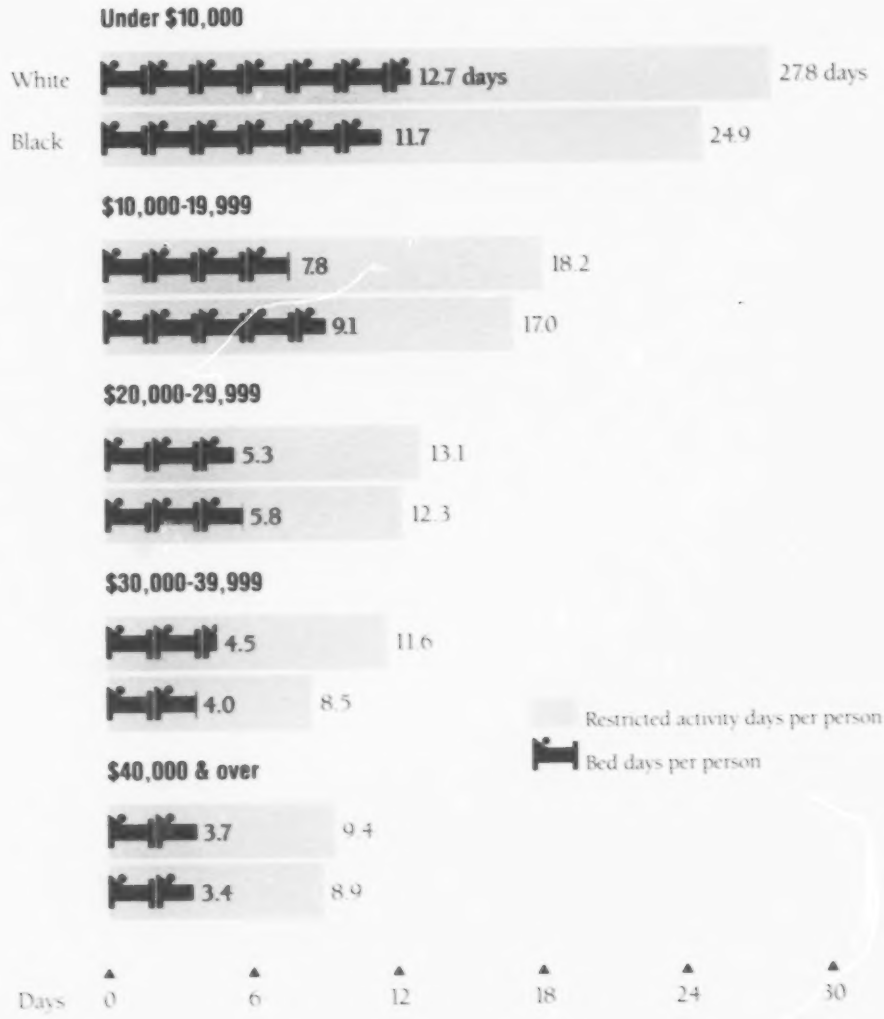
Days of Illness & Disability

TIME LOST from work, school or normal activities due to illness or disability is referred to as "restricted activity days." Generally, such data are reported by race and show that blacks report more restricted activity days than whites. This chart, which shows data by income as well as race, demonstrates that it is low income — not race — that is most strongly associated with restricted activity days. As income increases, the number of restricted activity days per person decreases markedly. In fact, blacks have fewer annual days of restricted activity than do whites, when rates for people from the same income groups are compared.

"Bed days" — a measure of more serious illnesses and a subset of "restricted activity days" — also generally show an inverse relationship to income for both racial groups.

33. Days of Restricted Activity

by Race and Income, 1988



SOURCE

Unpublished data from the US National Center for Health Statistics, Division of Health Interview Statistics, Illness and Disability Statistics Branch.

NOTES

"Restricted activity days" refers to any day when a person cuts down on his or her usual activities for more than half a day due to an acute illness or chronic condition.

"Bed days" refers to any day when a person stays in bed for more than half of the usual waking hours due to an acute illness or chronic condition.

The bed days estimate for blacks with incomes of $30,000-39,999 may be statistically unreliable.

Living with Disabilities

MOST PEOPLE with disabilities live at home, in their own communities; only 10 percent of disabled people 65 and over are confined to nursing homes, while less than two percent under 65 live in any type of facility, as the chart shows.

The needs of people with disabilities in the community vary widely. How well these needs are met depends on a person's age, family situation, financial circumstances, the nature of the disability, the availability of needed services and many other factors. Currently, families and friends provide much of the personal assistance that enables people with disabilities to live in their communities. Many of these people would prefer — and seek — even greater independence.

Helping people with disabilities, including the elderly, to stay out of institutions is a concept that has won nearly universal support. However, most public and private insurance coverage is inadequate to meet a person's need for community-based services over the long term. Medicare generally covers in-home care only when a beneficiary is confined to the home and if services are ordered by a physician. Medicaid coverage varies from state to state but tends to be less restrictive than Medicare. Ultimately, some 30 percent to 40 percent of in-home care is paid for out-of-pocket or contributed by patients or families.

The independent living movement was started in the early 1970s by advocates who believe the health and social service systems tend to foster dependence among people with disabilities. The nation's 380 Independent Living Centers provide a range of services that includes wheelchair repair, hearing aid services, referrals for employment and housing, and training of personal attendants.

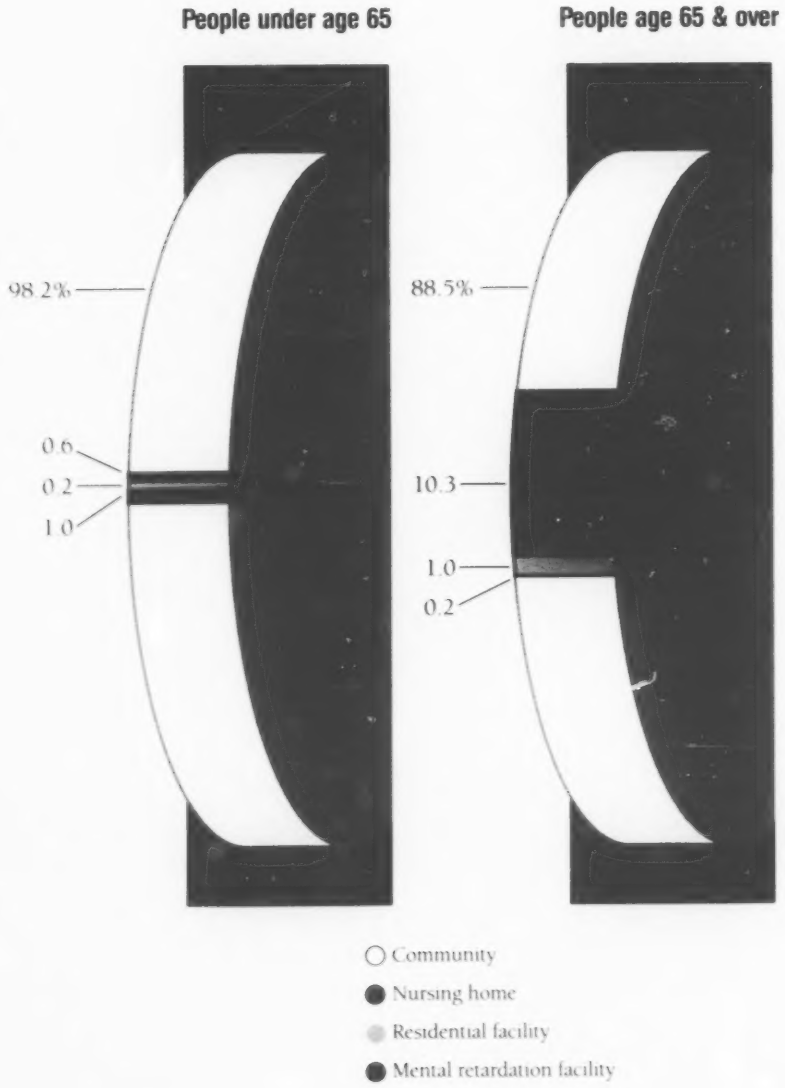
Many people under 65 who have disabilities are employed. A 1984 survey of working-age people reporting a disability found that 31 percent worked full-time and 11 percent worked part-time, although the majority (58 percent) were unemployed. In another survey, two-thirds of people with disabilities who were not working said they wanted to work. Legislation enacted in 1990 requires employers to make reasonable accommodations for Americans with physical or mental disabilities. This new law is expected to break down more barriers to employment for people with disabilities.

NOTE

Medicare is a federal program under which virtually all Americans 65 and over and many disabled people are eligible to receive health benefits. Medicaid provides health care coverage for some poor Americans according to complex eligibility requirements and benefits rules set by both state and federal governments.

34. Residence of People with Disabilities

1986



SOURCES

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US National Center for Health Statistics. *Characteristics of Facilities for the Mentally Retarded, 1986*. Vital and Health Statistics, Series 14, No. 34. Hyattsville MD. 1989. Table B, p. 4, and Table C, p. 5.

NOTE

People with disabilities who reside in hospitals are excluded from the chart.

Chronic Mental Illnesses

MANY PEOPLE with mental illnesses can lead productive and satisfying lives. However, this is often not possible for the estimated 2.8 million adults — more than one percent of the U.S. population — who are considered chronically mentally ill. Some of them cannot work, complete their education, maintain social relationships or take care of their basic needs because of their disability; others find themselves unable to lead productive, fulfilling lives because the stigma attached to mental illness is as disabling as the condition itself.

Chronic mental illnesses include a number of different conditions — schizophrenia, affective disorders (such as severe depression), psychoses, dementia and others. Alcohol and drug abuse can become chronically disabling and can complicate the course of other mental disorders.

With the deinstitutionalization movement of the 1970s, the large public mental hospitals scaled back their inpatient services, and many chronically mentally ill people came to live in the community. They now live at home with their families, in their own apartments, in group homes, in boarding houses, in residential treatment centers, in correctional facilities, in nursing homes or — too often — on city streets.

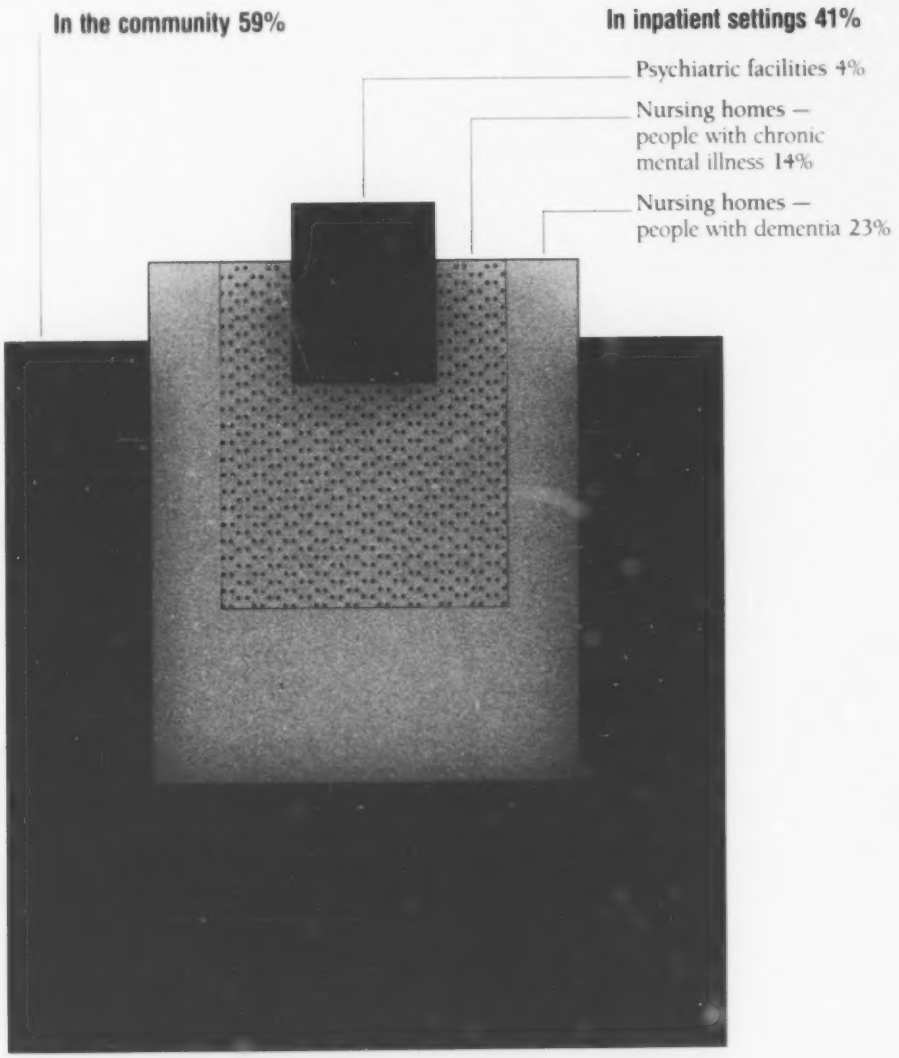
Only four percent of people with chronic mental illnesses are cared for as inpatients in mental health facilities; a much larger proportion — about 37 percent — is cared for in nursing homes; the largest group — roughly 59 percent — lives in the community.

Deinstitutionalization's troubling legacy has resulted from a shortage of proper community-based care. State institutions at least provided food, housing and medical services, including therapeutic drugs to control symptoms. Mental health experts estimate that only one in five people with a diagnosable mental illness receives needed treatment. As a result, many people rotate in and out of the hospital in a frustrating and debilitating cycle.

Providing the right mix of services for people with chronic mental illnesses in the community is extremely difficult. Inadequate health insurance coverage and the epidemic of substance abuse make matters worse. Housing, transportation, meals, medications, vocational and psychosocial rehabilitation, and the coordination of a confusing array of services represent only some of the care that must be provided if deinstitutionalization is to be successful. Another significant need is for community-wide efforts to combat the stigma of mental illness, so that people may live in the community more successfully.

35. People with Chronic Mental Illnesses

by Residence, 1985


In the community 59%
In inpatient settings 41%
Psychiatric facilities 4%
Nursing homes — people with chronic mental illness 14%
Nursing homes — people with dementia 23%

SOURCE

Estimates based on unpublished data from the US National Institute of Mental Health, Division of Biometry and Applied Sciences, Survey and Reports Branch.

Homelessness

NOTE

This information on the homeless population is from demonstration projects in the Health Care for the Homeless Program, funded by The Pew Charitable Trusts and The Robert Wood Johnson Foundation.

HOMELESSNESS IS not just a poverty problem. To varying degrees with varying people, it can be simultaneously a housing problem, a disability problem, a mental health problem, a substance abuse problem and a problem of profound social disaffiliation.

Counting the number of homeless people in the United States is complicated, in part because less than one-third of this population is chronically homeless. The majority is "episodically homeless" — homeless for only part of the year — and living with friends or relatives or even independently the rest of the time. Because researchers use a variety of methods to estimate the homeless population, these numbers range widely — from 200,000 to two million.

Only one percent to two percent of people living in poverty become homeless, which means that the vast majority of the poor are able to secure some type of housing for themselves and their families, despite today's much-publicized shortage of low- and moderate-income housing.

The chart on the opposite page and the following text are from a study of homeless people treated in health clinics. Although homeless people who seek medical care may not be representative of homeless people generally, this study offers a unique look at a large group of homeless people from 18 geographically dispersed cities. The gender, racial and ethnic composition of the homeless population varied substantially among the cities.

This study found that few homeless people are old. In part, this is due to entitlement programs for people 65 and over, but it also may reflect shorter lifespans for homeless people. Blacks and Hispanics are overrepresented. Homeless children — who are mostly under age five — are much more likely to be minority than are homeless adults.

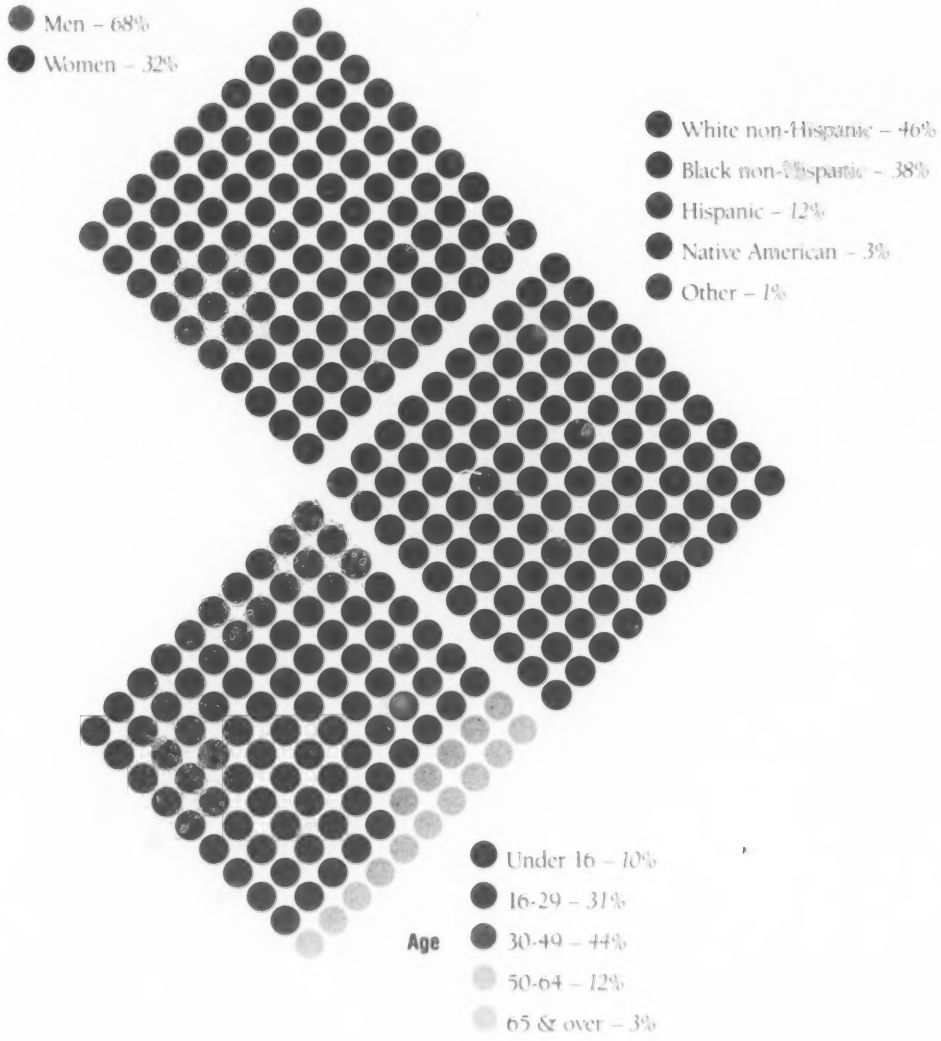
About a third of homeless people are women. Homeless women are more likely than men to have mental disorders (35 percent vs. 22 percent) and are less likely to abuse alcohol.

About 40 percent of all homeless people have a significant alcohol problem, and 13 percent use drugs. Many use both. Alcohol problems are reported for homeless children at very young ages — as young as six to 10. About 10 percent of homeless teenagers show signs of abusing alcohol.

A quarter of homeless adults seeking treatment have some sort of injury (compared to eight percent of the general U.S. population seeking ambulatory treatment). A third have minor respiratory problems (compared to 5.5 percent). Overall rates of chronic disease are 37 percent (compared to 27 percent). Dental problems also are much more common (12 percent vs. 0.4 percent).

36. Selected Characteristics of Homeless People Using Health Clinics

1985-1987



SOURCE

Unpublished data from the evaluation of the Health Care for the Homeless Program, James D. Wright, principal investigator. Department of Sociology, 220 Newcomb Hall, Tulane University, New Orleans LA 70118.

NOTE

Based on more than 70,000 homeless clients served by health clinics in 18 cities between March 1985 and December 1987.

Aging & Health Expenditures

ALTHOUGH MANY Americans enjoy a healthy old age, use of health services increases dramatically with advancing years. Per capita personal health care expenditures for people ages 65 to 69 are three times those of younger people. The older the age group, the higher these expenditures are.

Annual per capita expenses for hospital care nearly double between ages 65 and 85, but the most dramatic escalation is in per capita expenditures for nursing home care. Such care accounts for almost 41 percent of health expenditures for people 85 and over.

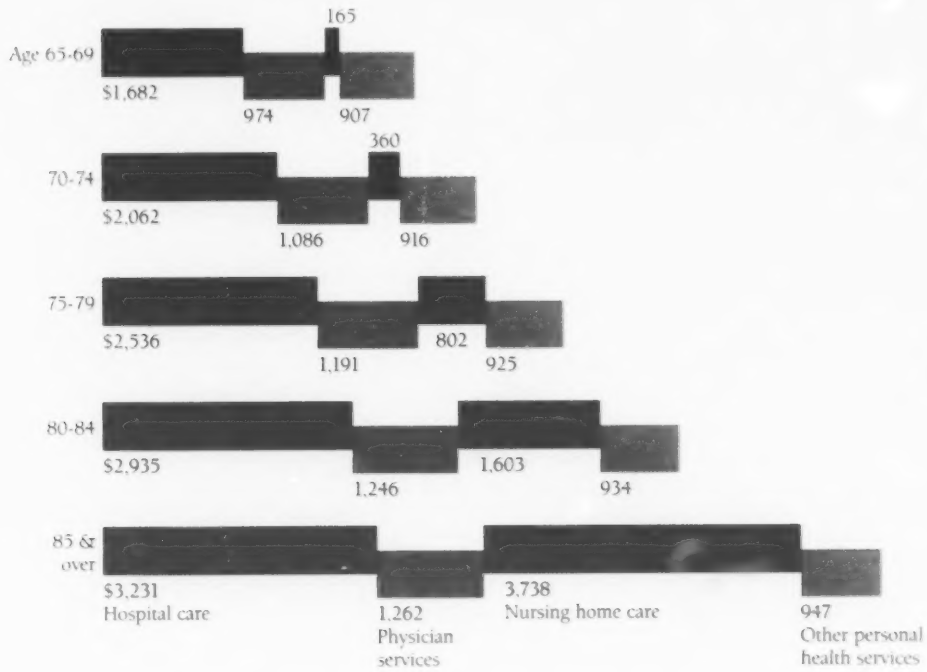
Among Americans ages 65 and over, twice as many women — 58 per 1,000 — are in nursing homes as men. This is because many more women survive to the oldest age groups, and they are less likely to have a spouse able to care for them. By age 85, about 249 of every 1,000 women are in a nursing home, compared to only 14 of every 1,000 women ages 65 to 74.

Medicare pays 70 percent of hospital care costs and 61 percent of the costs of physician services for people 65 and over. Older Americans or their private insurance plans pay much of the remainder — 15 percent of the costs of hospital care and 35 percent of the costs of physician services. Medicaid and other public programs pay the rest.

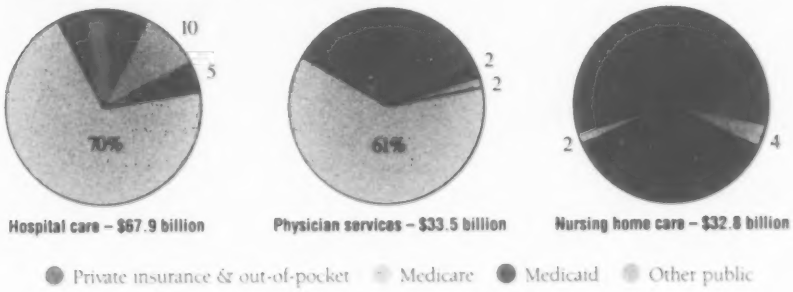
Currently, the elderly pay, on average, more than 18 percent of their annual income out-of-pocket for health insurance premiums, deductibles, co-payments, balance billings from physicians and non-covered services, such as long-term care. Many pay much more.

37. Per Capita Personal Health Expenditures for People Age 65 and Older

by Age and Type of Service, 1987



Selected Services by Payment Source



SOURCE

Waldo DR, Sonnefeld ST, McKusick DR and Arnett RH. Health expenditures by age group, 1977 and 1987. *Health Care Financing Review* 10(4):111-120, 1989. Table 3, p. 117, and Table 4, p. 118.

Disability & Health Insurance

DISABILITIES STRIKE people of all ages. They range from the mobility problems of spinal-cord injury to the vision problems of diabetes to the dexterity problems of arthritis to the cognitive problems of mild mental retardation. People with these problems are those whose "activities of daily living" — bathing, dressing, toileting, mobility and eating — may be compromised.

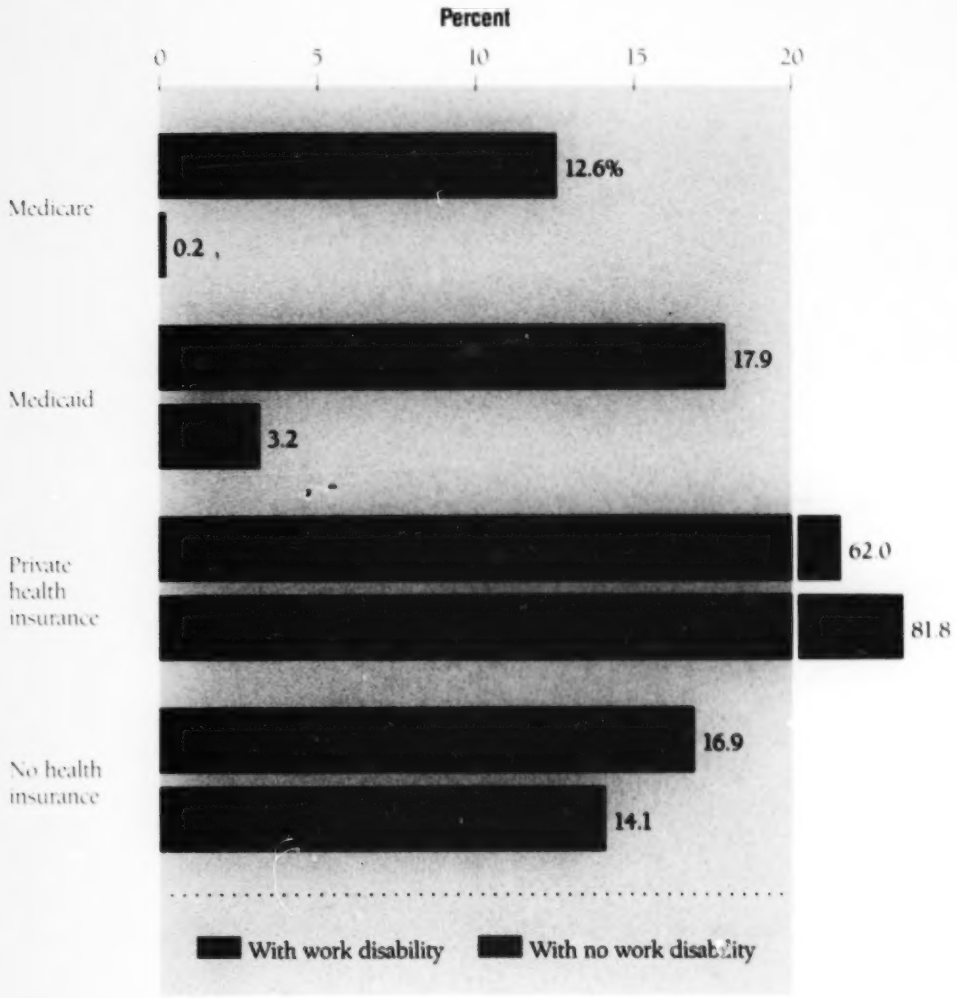
Despite the diversity of their problems and ages, the health insurance status of people with disabilities can be discussed as if they were a cohesive group. Some 62 percent of the work-disabled population has private insurance; yet, this coverage may be inadequate, because it typically contains numerous exclusionary clauses and limitations. Because of the vulnerable state of health of people with disabilities, their potential heavy use of health care services and their low employment rates, private insurers are reluctant to cover them, and many have no private health insurance at all.

Do existing public-sponsored health programs provide a strong enough safety net? According to the chart, which looks at insurance coverage for working-age people, the answer is no. A greater proportion of people in this age group with disabilities (almost 17 percent) report no health insurance, compared to people without disabilities (14 percent).

Medicare and Medicaid cover only about 30 percent of working-age people with disabilities. People who have worked a set amount of time before becoming disabled are eligible for Medicare under the Social Security Disability Insurance Program; however, they must wait two years to qualify for this coverage. To qualify for Medicaid, disabled people must meet state eligibility requirements. Many have too much household income to be eligible, even though they are near poverty and have high disability-related medical expenses.

38. Health Insurance Coverage for People Ages 16-64

by Disability Status, October to December 1988



SOURCE

US Bureau of the Census. *Health Insurance Coverage: 1986-88*. Current Population Reports, Series P-70, No. 17. Washington DC. 1990. Table 1, p. 17.

NOTE

The "work disability" category includes people reporting a disability that prevents them from performing at least some types of work. Many people with a work disability are employed.

Insurance for Long-Term Care

MOST AMERICANS are not protected against the catastrophic costs of long-term care, whether it entails placement in a nursing home or the array of health and supportive services that allows people to continue living at home. Currently, individuals and families arrange or provide most long-term care themselves. Demographic trends suggest that in the future family members may be less available to provide direct caregiving.

A large share of long-term institutional care also is paid out-of-pocket by individuals and families. In 1989, some 44 percent of nursing home costs were paid by residents and their families. Medicare, contrary to a widespread misconception, covers only a very small portion of nursing home costs — typically about two percent. Medicaid paid 43 percent of these costs in 1989, but, to be eligible for Medicaid, elderly people must first become poor by spending virtually all their assets.

One potential way to cover long-term care costs would be for private insurers to offer long-term care insurance for the middle class, with public insurance available for the low-income elderly. Indeed, the private long-term care insurance market has been growing. As of June 1990, more than 1.65 million long-term care policies had been purchased — more than 10 times the number in force in 1986. The amount of the premium for this coverage depends primarily on a person's age at the time of purchase and whether the policy covers future increases in health care costs.

Most long-term care insurance is purchased directly from insurance companies. Policies purchased through groups, such as the American Association of Retired Persons, accounted for 17 percent of policies in 1989. Only three percent of policies were employer-sponsored. A mere one percent of long-term care policies were riders to life insurance policies, a new option introduced by the insurance industry in 1988.

Private long-term care insurance has come under fire for not adequately covering home health care or adult day services; for activating benefits only after a period of institutionalization; for not offering inflation-proof policies; for excluding conditions like Alzheimer's disease; and for setting a time limit on nursing home care. Since 1984, when only a handful of companies offered long-term care coverage (compared to the 134 insurers selling policies as of June 1990), insurers have begun to address some of these problems. Still, despite today's better coverage and growing public acceptance, private insurance pays only one percent to two percent of long-term care costs.

Average annual premiums offered by 15 leading long-term care insurers

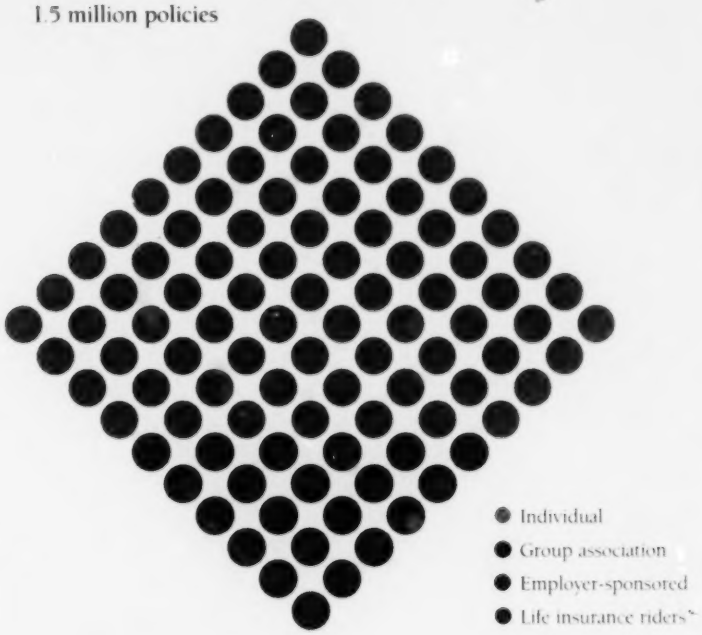
If bought at age	*With inflation adjustment*	*Without*
50	$ 658	$ 483
65	$1,395	$1,135
79	$4,199	$3,841

39. Sources and Coverage of Long-Term Care Insurance

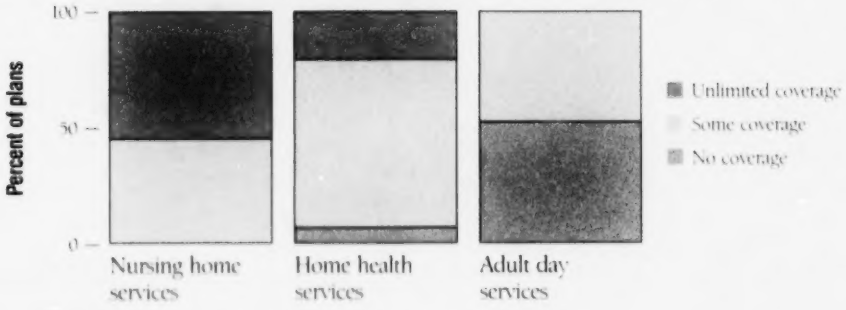
as of December 1989

Long-term care insurance by type of policy

1.5 million policies



Coverage for nursing home, home health & adult day services



SOURCE

Health Insurance Association of America. *Highlights of HIAA Long-Term Care Insurance Survey*. Washington DC. 1990. Table 1 and p. 2.

NOTE

Coverage data are from a survey of the 15 long-term care insurance plans that provide three-fourths of the policies in the United States.

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$604 BILLION IN HEALTH CARE EXPENDITURES

FAST FACTS

◆ The United States spent 11.6 percent of its Gross National Product on health care in 1989.

◆ Total 1989 national health expenditures were $604.1 billion.

◆ The largest portion of health care expenditures is spent on hospital care, which cost the nation $232.8 billion in 1989.

◆ Nearly a quarter of all personal health expenditures — 23.5 percent — was paid by individuals out-of-pocket in 1989.

◆ One out of five Americans had no health insurance coverage at some time during 1987.

◆ Less than half of households in poverty — 43.5 percent — had any members covered by Medicaid in 1989.

Health Expenditures Here & Abroad

NOTE
The Gross Domestic Product is the total market value of all goods and services produced domestically; the more familiar Gross National Product also includes the value of goods and services produced by companies and citizens abroad.

HEALTH CARE expenditures in the U.S. are higher than those of any other nation, by any measure. In 1988, U.S. per capita health care expenditures were $2,140 — $546 higher than in Canada, the country with the second-highest per capita rate. In that same year, 11.3 percent of the U.S. Gross Domestic Product (GDP) went toward health care, compared to the proportion of GDP spent by Canada, Sweden, the United Kingdom and the Federal Republic of Germany, which ranged from 5.9 to 9.0 percent.

U.S. spending on health care increased more rapidly between 1980 and 1988 than did spending in the other countries shown in the chart. In the 1980s, faced with growing economic pressures, these countries imposed restraints on health care costs, and the proportion of their GDP spent on health care remained relatively stable, with Sweden's proportion actually declining in 1988. By contrast, the United States — which faced much the same economic situation — imposed more moderate restraints, and the proportion of GDP spent on health care increased a full two percentage points, from 9.3 percent in 1980 to 11.3 percent in 1988.

Several explanations have been suggested for the disparities in health expenditures between the United States and other wealthy industrialized nations. One oft-cited reason is that, in other countries, governments tend to regulate health care expenditures more closely. In Sweden, for example, county councils with broad powers own and operate hospitals, determine how many patients a physician will care for and levy taxes to pay for health services. Even in countries where hospitals and physicians are in the private sector, governments impose controls on budgets, fees and capital expansion.

A second explanation is that public financing of health care plays a smaller role in the United States than in most other countries. Public programs account for just over 40 percent of all U.S. health care expenditures, whereas public sources pay for more than three-fourths of health care in other industrialized countries, on average. While a predominantly private system may be thought to be linked to higher health care costs, that is not inevitable, as shown by the experience of West Germany.

A third explanation for higher U.S. health expenditures may be the high cost of administering our current system: Even an old estimate — based on 1987 data — suggests that some 24 percent of the total U.S. health budget was spent for such things as billing, recordkeeping, claims processing and marketing, an administrative burden that has not decreased with time. These costs are passed on to consumers in higher prices for health services.

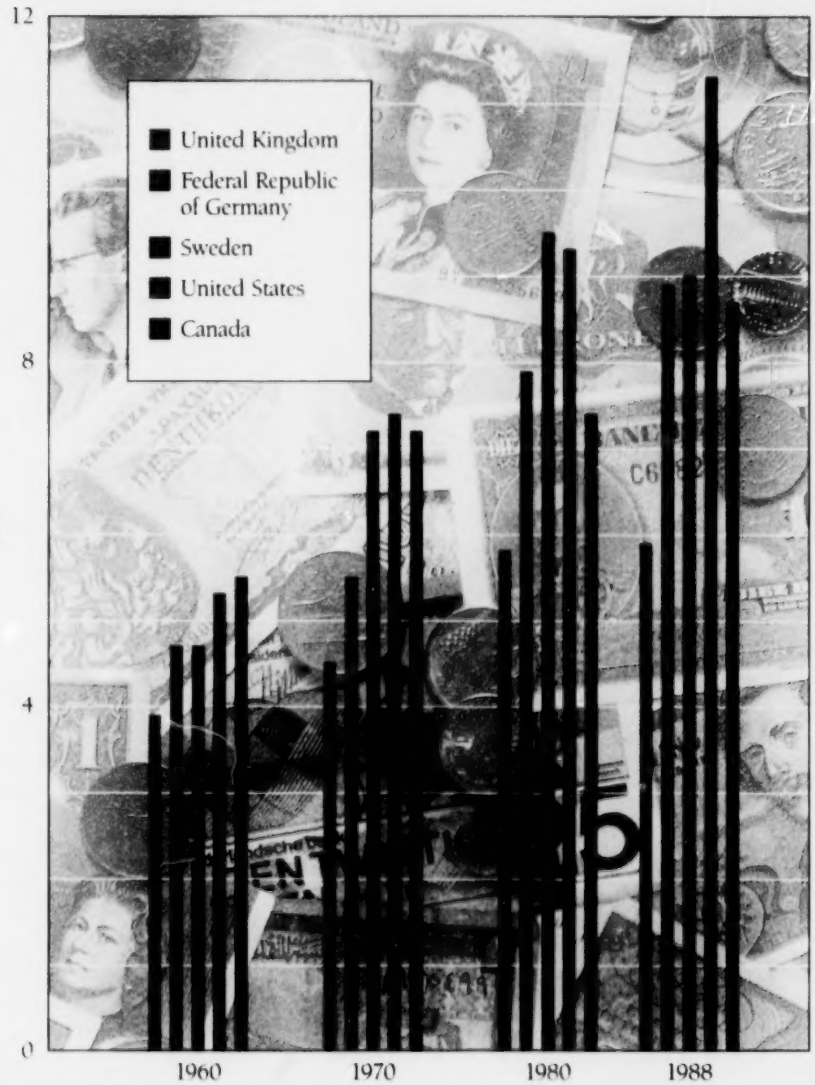
National health expenditures 1988

	$ in billions	%
Personal health care	478	88
Administrative costs to payers*	26	5
Public health programs	16	3
Research	10	2
Construction	10	2
	$540	100%

*Includes public and private insurance and direct payment programs.

40. National Expenditures for Health

as a Percentage of Gross Domestic Product, Selected Countries and Years



SOURCE

Poullier J-P. Neuere Finanzentwicklung der gesetzlichen Krankenversicherung. *Monatsberichte der Deutchen Bundesbank*, 1991. P. 7.

Health Expenditures in Context

IN THE United States we spend more on health care than we do on either education or national defense. In 1988, six percent of the Gross Domestic Product was spent on national defense and 6.5 percent on education, while more than 11 percent was spent on health care. Although this is more than other nations spend on health, the question of how much of the GDP *should* be spent on health care is a value judgment.

Because the health care sector continues to consume an increasing proportion of the GDP, some economists worry that in the future the high cost of care will be met at the expense of other goods and services. In 1970, the United States spent just eight percent of the GDP on national defense, even though we were in the middle of the Vietnam war; we spent 7.5 percent on education then, even though the baby boom generation was mostly in school; and we spent 7.4 percent on health care. In the two decades since, the proportion of GDP spent for education and national defense has decreased, while the proportion for health care has increased 50 percent — even after adjusting for economy-wide inflation and even though a great many Americans still receive inadequate care.

One reason for increased health expenditures is the aging population. Another is the proliferation of sophisticated medical technology, which gives us the capacity to prolong the lives of very sick patients — at a tremendous cost.

Demonstrating the interrelationship between health care spending and social values, some analysts warn that Americans may be forced to make hard choices about who receives costly services if we truly wish to contain spiraling health care costs. Other experts say that increased efficiency and system reforms may produce enough savings to enable us to forestall explicit rationing of health care. Still others maintain that we are not spending enough on health services for Americans.

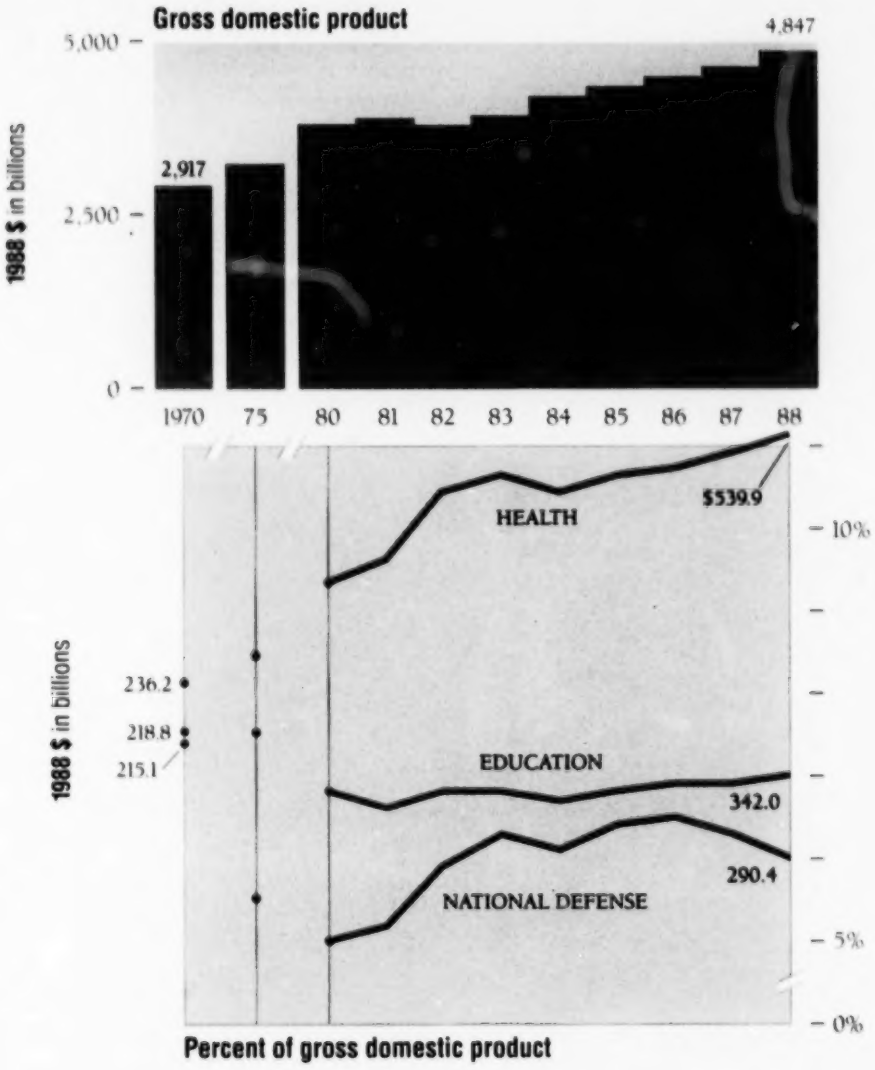
NOTES

Education expenditures include all federal, state, local and private funds spent on public and private schools, colleges and universities. Not included is spending for non-collegiate post-secondary programs.

The Gross Domestic Product is the total market value of all goods and services produced domestically; the more familiar Gross National Product also includes the value of goods and services produced by companies and citizens abroad.

41. Total U.S. Gross Domestic Product and Percent of Expenditures for Health, Education and Defense

1970, 1975, 1980-1988



SOURCES

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1988 GDP data: Unpublished data from the US Council of Economic Advisors.

Health data: Unpublished data from the US Health Care Financing Administration.

1970-1987 education data: US Department of Education, National Center for Education Statistics. *Digest of Education Statistics: 1989*. Washington DC. NCES Pub. No. 89-643. 1989. Table 25, p. 29.

1988 education data: Unpublished preliminary data from the same source.

Defense data: US Office of Management and Budget. *Historical Tables: Budget of the United States Government: Fiscal Year 1990*. Washington DC. 1989. Table 3.1, pp. 42-44.

NOTE

Data in this chart are inflation-adjusted to 1988 dollars.

Why Health Costs Grow

PERSONAL HEALTH expenditures in the U.S. increased 10 percent — from $434 to $478 billion — between 1987 and 1988, a period when economy-wide inflation, as measured by the Consumer Price Index, was only 4.4 percent. What accounted for this large increase in the health sector?

In this chart, the annual increase in personal health expenditures is shown for three time periods — 1967-68, 1977-78 and 1987-88. These increases are attributed to four factors — economy-wide price inflation, additional medical inflation, population increase and intensity of care.

Economy-wide price inflation affects the price of all consumer goods. Inflation is measured by standard indexes, which also monitor the prices of medical services. The difference between annual price increases in medical services and economy-wide price increases is termed additional medical inflation. Between 1987 and 1988, the rate of additional medical inflation was 2.3 percent.

The population increase factor takes into account population growth — the greater number of people who are buying health care services and thus raising the personal health expenditures total from one year to the next.

Intensity of care is a residual category, which estimates the effects of the aging of the population and the use of expensive technology, for example, as well as per-person increases in the number of office visits, tests and other services.

Additional medical inflation was more important in the price increases that occurred in 1988 than in 1968 or 1978. In fact, additional medical inflation, responsible for 24 percent of the annual increase between 1987 and 1988, cost the United States $10 billion in that year alone.

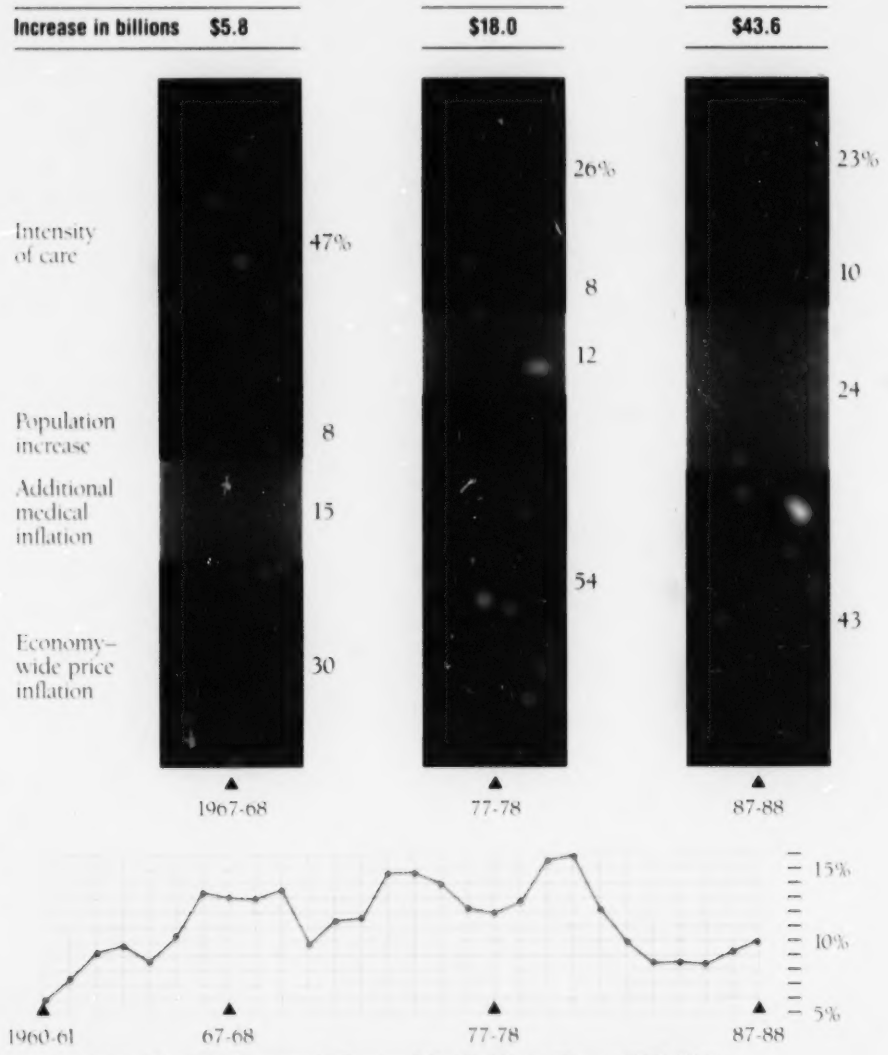
One reason for growing health costs is that the health services market does not operate like conventional free markets. In conventional markets, consumers select goods and services — food, home repairs, clothing — based on price and a personal assessment of their necessity and value. These assessments help regulate prices. In the health services market, consumers do not exert the same influence on prices, largely because they do not pay for services directly. Also, consumers don't believe they have the knowledge to judge for themselves the necessity, quality or price of the health care services they are purchasing. As a result, they rely heavily on health care providers — physicians, in particular — to make "buying decisions" for them.

Annual percent change in personal health expenditures

1960-61	6.1
1965-66	10.5
1970-71	9.9
1975-76	14.0
1980-81	11.0
1985-86	8.3
1986-87	9.3
1987-88	10.0

42. Factors Affecting the Annual Increase in Personal Health Expenditures

1967-68, 1977-78, 1987-88



Annual Percent Increase in Personal Health Expenditures, 1960-1988

SOURCE

Unpublished data from the US Health Care Financing Administration, Office of the Actuary, Office of National Cost Estimates.

NOTE

"Intensity of care" includes changes in technology and the composition and frequency of care, as well as changes in the population.

The Medical Price-Volume Interaction

THE GOVERNMENT, health insurers and other health care payers have attempted many strategies to contain health care costs. These include placing ceilings on hospital and physician reimbursements, standardizing payments for care for specific diagnoses, using preadmission screening to reduce unnecessary hospital admissions and reviewing the use of specific services to discourage their excessive use.

Some of these strategies have been declared successful, yet paradoxically they have not reduced the overall costs of health care. This is because, when economic pressure was exerted on one part of the health care system, another expanded, as this chart well illustrates. In the chart, total health care expenditures reflect the prices of all the individual health care services provided, multiplied by the number of times each service is provided (volume).

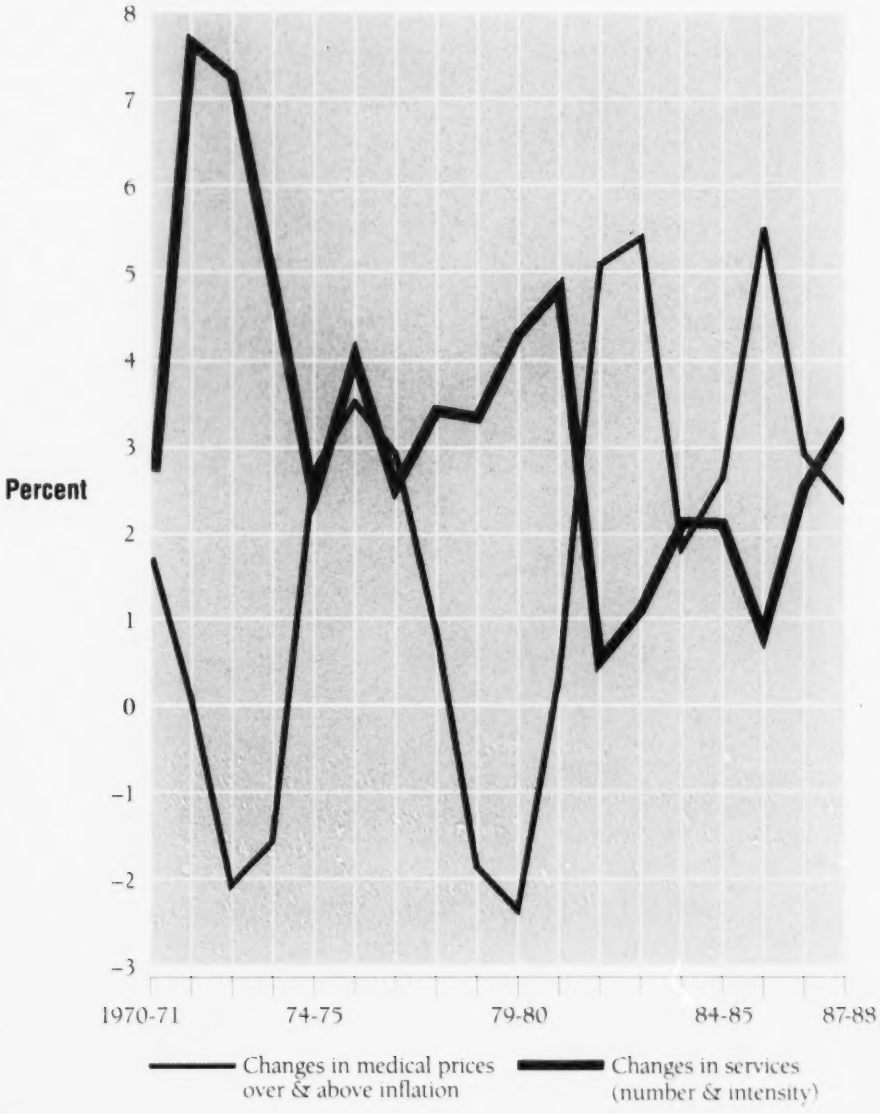
When pressure is exerted to keep health prices down — as was done with price freezes in the early 1970s — the system compensates by increasing the number of services rendered. Likewise, during times when the growth in services has been constrained — such as through utilization review or second opinion programs — the price-per-service has increased. The two lines in the chart show that the health services' volume and price (measured by the medical services component of the Consumer Price Index) often counterbalance each other. Thus, although either price or volume controls may have met their objectives at least temporarily — and thus been declared successful — the lack of control over the other component of expenditures allowed total health care expenditures to rise.

This phenomenon is the result of thousands of individual decisions by health care providers. A doctor feeling the pinch of inadequate Medicaid reimbursement may compensate by seeing more patients (expanding office hours), by ordering more diagnostic tests or by performing more procedures for the patients seen. A hospital squeezed by Medicare's limits on inpatient reimbursement may diversify its services or open an ambulatory surgery center as a new source of revenue.

There are several schools of thought about health care cost containment. Some analysts advocate increased competition among health care providers, others advocate increased regulation, similar to the regulation of public utilities. Numerous options lie between these extremes. Whatever course is adopted as a national strategy, the challenge will be to control total health care expenditures, rather than merely to squeeze down on first the price, then the volume part of the equation.

43. The Relationship Between the Volume and Price of Medical Care

1970-1988



SOURCES

Analysis based on unpublished data from the US Health Care Financing Administration, Office of the Actuary, Office of National Cost Estimates and on: The White House, Executive Office of the President. *Economic Report of the President*. Transmitted to the Congress February 1990. Washington DC: 1990. Table C-58, p. 359.

Who Is Paid for Personal Health Care?

EFFORTS TO control personal health care expenditures have focused primarily on the biggest target — hospital care. The federal government, through the Medicare program, took aim at hospital costs in 1983 when it began reimbursing fixed fees to hospitals, based on patients' specific diagnoses, rather than paying for each day or individual service rendered during a hospital stay. Many private insurers also have launched hospital cost-control programs.

Hospital expenditures accounted for 44 percent of all personal health care expenditures in 1988, reaching $212 billion. After years of double-digit inflation in hospital spending (in 1980 alone, for example, the increase was 17 percent), hospital expenditures rose by only 8.1 percent in 1987 and 9.3 percent in 1988. This was less than the overall rate of increase for all health expenditures (10.4 percent in 1988).

While hospitals' share of the nation's health care dollar has declined since 1980, the annual growth in spending for physician services has outpaced that for all health care since 1983. Spending for physician services in 1988 was 22 percent of all personal health care expenditures and surpassed $105 billion.

Spending for dentistry and other professional services, such as podiatry, optometry, private-duty nursing and others, also grew rapidly. In 1988, these costs increased by 12 percent — second only to the increase for physician services — and accounted for 11 percent of all personal health care expenditures.

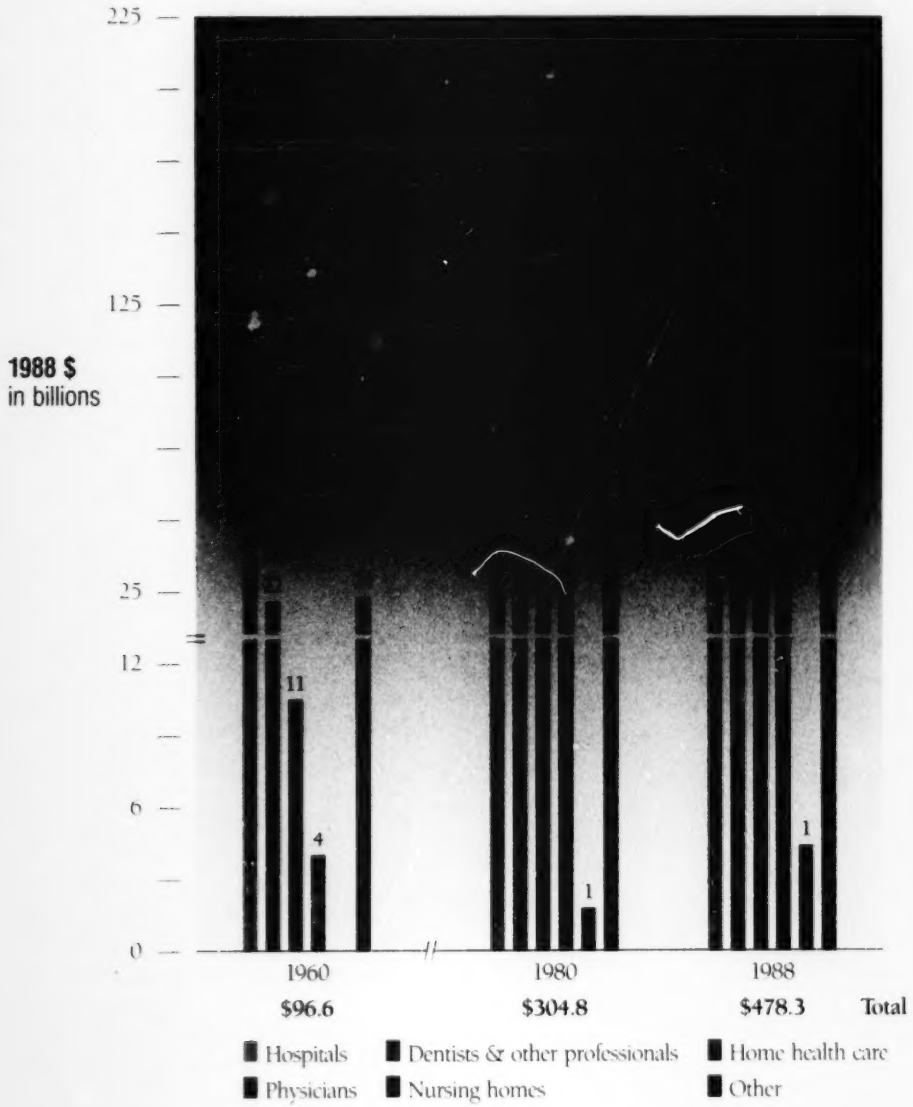
Nursing home expenditures were $43 billion in 1988, or nine percent of personal health care expenditures, and grew more slowly (8.5 percent in 1988) than health care expenditures generally. Strict controls on the supply of nursing home beds and on reimbursements account for this slow growth.

Home health care expenditures nearly tripled in volume — but not in the proportion of health spending they consumed — between 1980 and 1985, as patients were discharged from hospitals sooner and required continuing care at home. Since 1985, growth in these expenditures has abated considerably, as Medicare has tightened reimbursement rules. Expenditures for home health care in 1988 totaled $4.4 billion.

With the dampening of growth in hospital expenditures, government, insurers and business payers increasingly cast a critical eye at non-hospital health care expenditures. Currently, the debate is focused on ways to control physician costs.

44. Personal Health Expenditures

by Type of Service, 1960, 1980, 1988



Who Is Paid for Personal Health Care?

SOURCE

US Health Care Financing Administration, Office of the Actuary, Office of National Cost Estimates. National health expenditures, 1988. *Health Care Financing Review* 11(4):1-41, 1990. Table 15.

NOTE

Data in this chart are inflation-adjusted to 1988 dollars.

Who Pays for Personal Health Care?

THE $540 BILLION spent in the United States on health care in 1988 included both direct costs for services delivery and indirect costs, like constructing new hospitals, conducting research on diseases and even the multibillion-dollar costs of processing insurance claims. Nevertheless, the direct costs of personal health care accounted for 89 percent — $478 billion — of total U.S. health costs in 1988. Personal health expenditures include hospital care, physician services, dental care, medications, wheelchairs, eyeglasses, nursing home care and the like.

In 1988, 36 percent of these expenditures were paid by private insurance or other private charitable funds, and 40 percent by federal, state and local government programs. About 24 percent — $113.2 billion — was paid by consumers out-of-pocket.

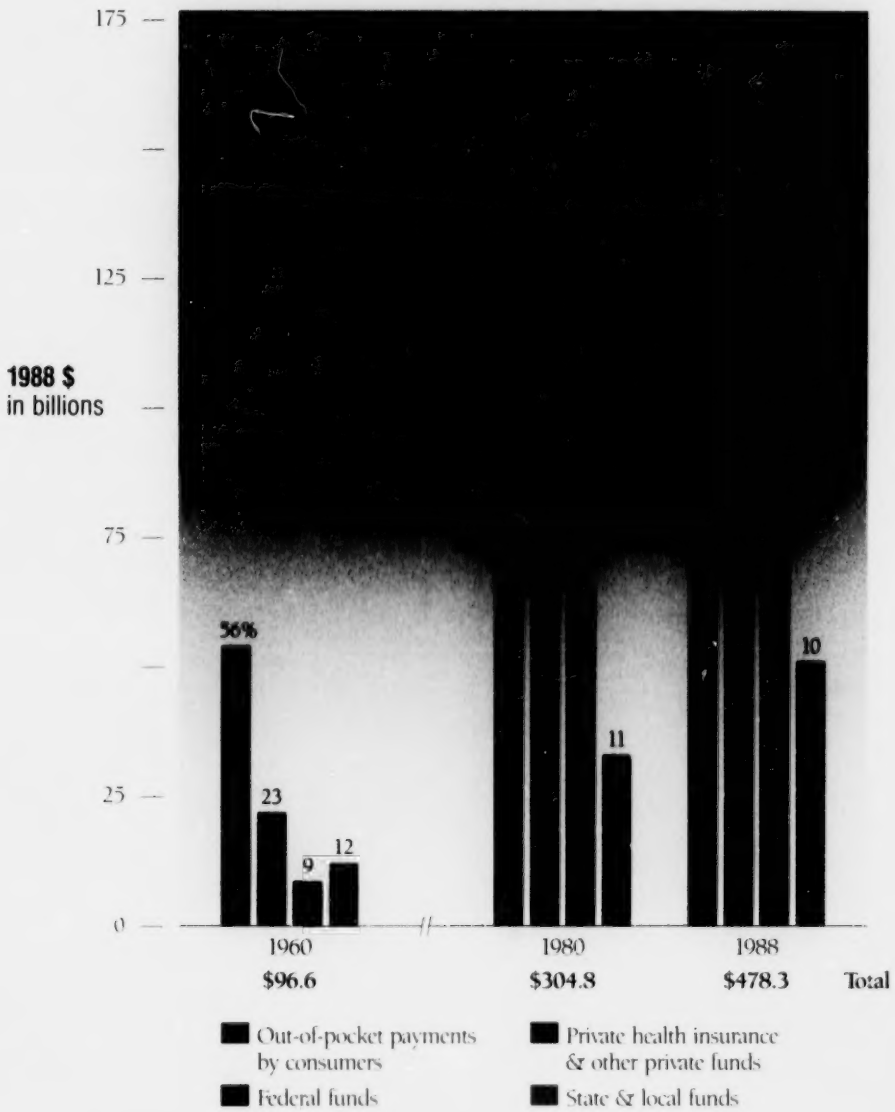
The proportion of health expenditures paid out-of-pocket has decreased steadily in the last three decades. In 1960, 56 percent of personal health expenditures were out-of-pocket. The consumers' share of health expenses has declined not only because of the growth of employer-sponsored insurance but also because of the advent of Medicare and Medicaid. The nation's largest single payer of hospital and physician services is Medicare (a federal program under which virtually all Americans 65 and over — and the disabled — are eligible to receive benefits); the largest third-party payer of long-term care is Medicaid (which provides coverage for some poor Americans according to complex eligibility requirements and benefits rules set by both state and federal governments).

Current trends are to shift some of the costs of both public and private health care insurance back to the individual, in the form of higher co-payments and deductibles and larger shares of monthly premiums. In 1980, these costs plus direct patient payments for services not covered by insurance were $248 per capita, and in 1988 they were $445, a 10.5 percent increase over the previous year.

Although the dollar amount of consumer payments has increased, consumers are paying a smaller piece of the nation's total health care bill. Their share of overall health care costs continues to decline, because the services covered by insurance are expanding even more rapidly than are consumer costs. Today large employers typically offer employees not only basic and catastrophic coverage, but also prescription drug, vision care, mental health and dental care benefits.

45. Personal Health Expenditures

by Source of Payment, 1960, 1980, 1988



Who Pays for Personal Health Care?

SOURCE

US Health Care Financing Administration, Office of the Actuary, Office of National Cost Estimates. National health expenditures, 1988. *Health Care Financing Review* 11(4):1-41, 1990. Table 15.

NOTE

Data in this chart are inflation-adjusted to 1988 dollars.

Health Insurance

NOTE
Data in this section are based on the noninstitutionalized population, and do not include the people in nursing homes, hospitals and the like. As a result, for example, the chart underestimates Medicaid coverage among the elderly.

MOST AMERICANS have at least some private insurance coverage and depend on their employers to provide it. Public insurance programs are intended to fill in the gaps left by employer-based private insurance. The enactment of Medicare in 1965 addressed one of the biggest of these gaps — insuring the elderly. Thanks to Medicare, only 0.3 percent of Americans 65 and older are uninsured.

However, many people in other sectors of the population remain uncovered for all or part of any given year: the unemployed, part-time workers, minimum-wage workers whose employers do not offer health plans or new employees in jobs that do not offer insurance for the first few months of employment. In the fourth quarter of 1988, one survey estimated that some 31.6 million Americans — 13 percent of the population under age 65 — had no private or public health insurance coverage.

About 212,000,000 Americans — 87 percent — have public or private insurance. For each age group, the bars on the chart show the number of people who are covered under private insurance, Medicaid, Medicare and other public programs. Some people have several types of coverage.

Among Americans of working age, 80 percent are covered by private insurance, largely through employer-based plans; about five percent have Medicaid; and 2.5 percent are covered through public programs for veterans and the military. Medicare covers less than two percent in this age group through its programs for the disabled.

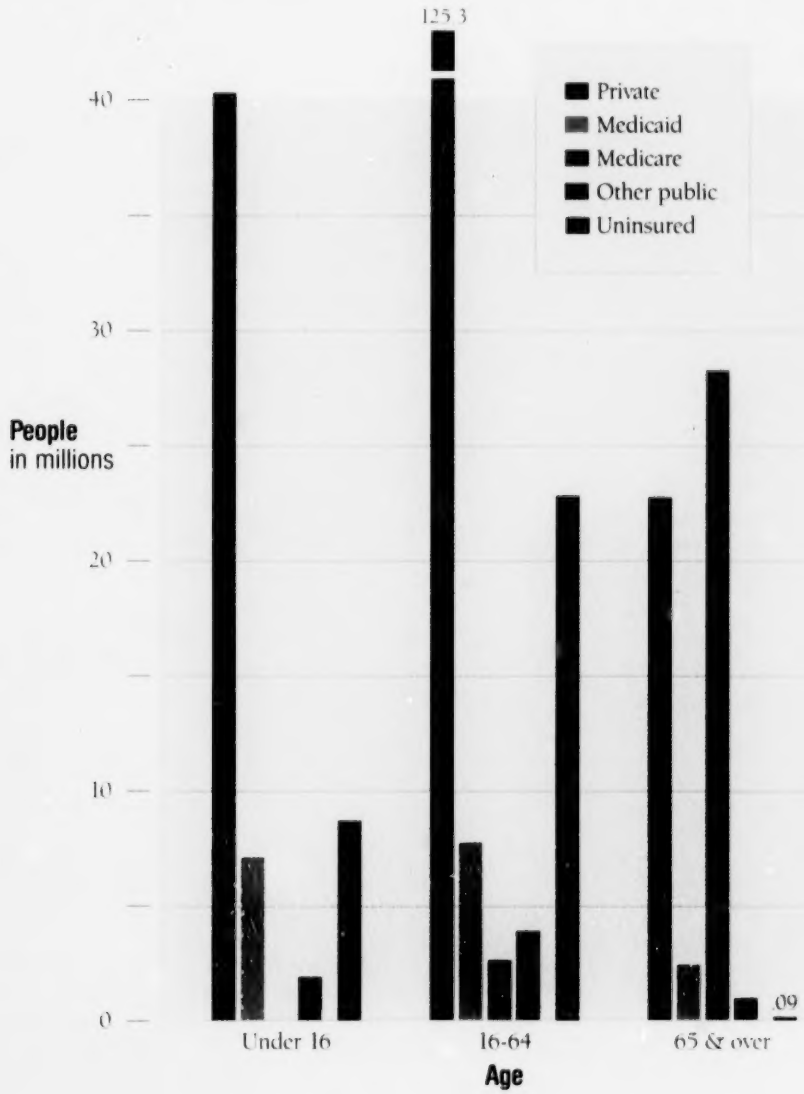
Public programs tend to cover people in the younger and older age groups, who are less likely to have employer-based insurance. Medicare covers almost everyone 65 and older, and Medicaid covers 12.5 percent of children under age 16. Medicaid, a combined federal-state program, generally covers only certain categories of low-income people — notably the disabled elderly and single women with children. Recent federal legislation, aimed at reducing high infant mortality rates and improving child health, has expanded coverage for pregnant women, infants and children, but states still have some discretion over whether to implement these new eligibility standards fully.

The majority of children under 16 are covered by private insurance. About 71 percent of children have private coverage, provided mostly through their working parents.

Among the elderly, 79 percent have private insurance to help pay for the portion of care that Medicare does not cover. Such insurance comes either through retiree benefits or through supplemental "Medigap" policies purchased by the individual.

46. Health Insurance Coverage

by Age, October to December 1988



SOURCE

US Bureau of the Census. *Health Insurance Coverage 1986-88*. Current Population Reports, Series P-70, No. 17. Washington DC, 1990. Table 1, p. 17.

NOTES

"Other public" is military and veterans' benefits.

Many people have more than one type of insurance.

The Uninsured

ALTHOUGH THE United States spends more per capita for health care than any other country, a large part of its population has no insurance — or too little insurance — for either routine or catastrophic health care. Estimates of the size of the uninsured population vary, depending on how this information is collected. The chart reflects data from a thorough national survey conducted early in 1987, which found a total of 36.1 million uninsured Americans.

Without some provision to cover the health care costs of the uninsured and underinsured, their costs are borne by all Americans in the form of higher taxes, higher medical care charges and higher health insurance premiums. Moreover, people without health insurance — or with inadequate coverage — obtain less routine and preventive medical care and seek treatment later than do well-insured individuals. The results can be both serious and costly in terms of unnecessary medical problems, advanced conditions that are more difficult — and more expensive — to treat, and lost productivity.

If government presumably provides Medicaid and Medicare for the poor and the elderly and if employers generally provide coverage for the labor force, who doesn't have health insurance? This chart challenges some of our assumptions about the uninsured.

Many are poor. About 31 percent of the uninsured are poor; another 31 percent are near-poor or low-income. That is, their incomes are between one and two times the federal poverty level. Medicaid covers only four out of 10 Americans who are below the federal poverty level.

Many of the uninsured are working or live in families where at least one person is employed. Some 14.8 million — or 59 percent — of the uninsured ages 18 to 64 are in this category, including some 20 percent of the working uninsured who are self-employed. Seventy percent of the working uninsured are employed full-time (35 hours a week or more). The working uninsured are predominantly young, earn low wages and work in retail trade, construction, the agriculture and fishing industries, and in the service sector of the economy.

Company size affects the availability and generosity of work-related health insurance. Small firms usually provide fewer employee benefits of all types. As the chart shows, most of the working uninsured work for employers having fewer than 10 employees. According to a 1987 survey, some 26 percent of Americans lived in families where at least one working adult was employed in a company of that size.

NOTE

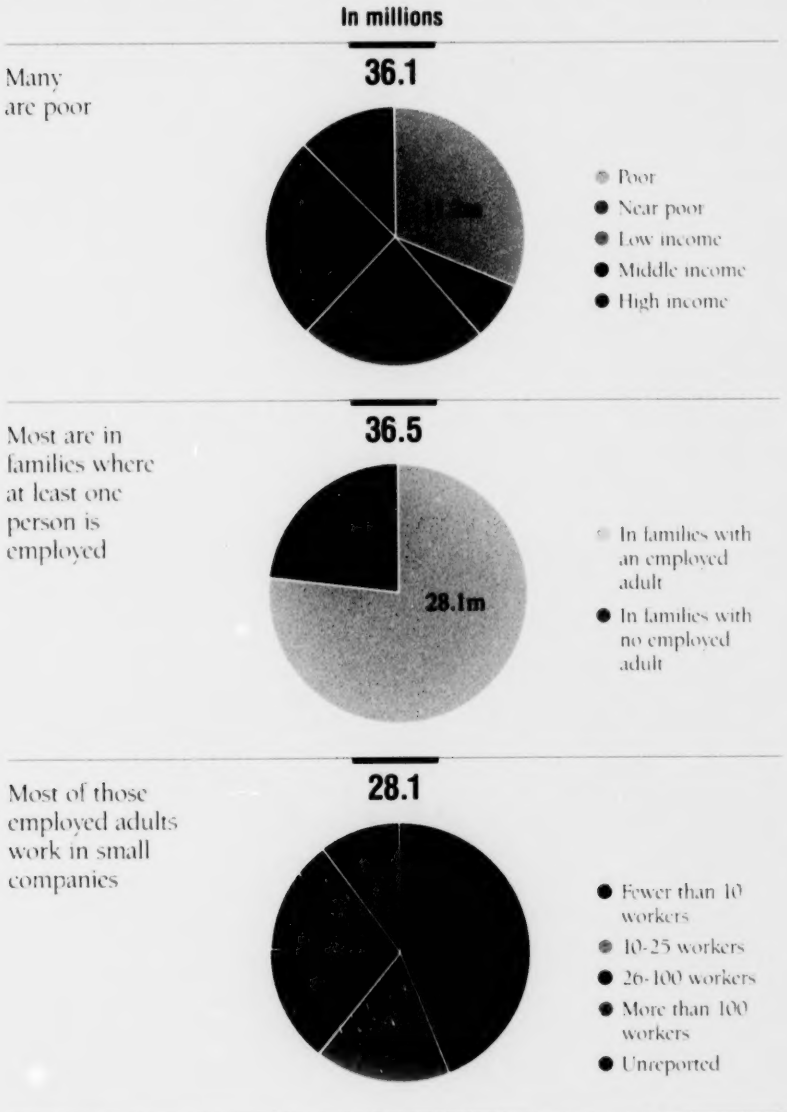
Federal statistics classify as poor only those families with incomes below the federal poverty threshold. The poverty threshold varies according to family size, and each year it is adjusted for inflation. For example, the 1988 poverty threshold for a family of four was $12,092. (The median income for households of all sizes was $27,230 that year.) Believing the thresholds are too conservative, some analysts classify people with incomes up to 125, 150 or even 200 percent of federal poverty thresholds as "near-poor."

Uninsured, by age
1st quarter 1987

Under 6	18%
6-18	18
19-24	29
25-54	15
55-64	12

47. Selected Characteristics of the Uninsured Under Age 65

January to April 1987



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US National Center for Health Services Research and Health Care Technology Assessment. *A Profile of Uninsured Americans: National Medical Expenditure Survey: Research Findings 1*. Rockville MD. DHHS Pub. No. (PHS)89-3443, 1989. Table 3, p. 8, and Table 5, p. 11.

NOTE

Preliminary estimates of the size of the uninsured population used in the middle figure (36.5 million) were slightly larger than final estimates reflected in the top figure (36.1 million).

The Burden of Health Expenditures

IN THE LAST 20 years, U.S. businesses have been in the forefront of efforts to rein in health care cost inflation by encouraging development of health maintenance organizations (HMOs), preferred provider organizations (PPOs) and other alternative forms of financing and delivering medical care.

A look at this chart clearly reveals why health care costs are such an important issue for U.S. companies. Simply put, health insurance premiums are an increasingly large part of business expenses. One way to show the significance of this expense is to compare it to another important measure — corporate profits. In 1965, U.S. businesses paid $14 for health services and supplies for every $100 of their after-tax corporate profits. By 1988, health expenses were almost $86 for every $100 of after-tax profits and peaked at $110/$100 in 1986.

Companies not only pay health insurance premiums for their employees but also the employer share of public payroll taxes for Medicare, the medical portion of workers' compensation, temporary disability insurance premiums and, in some cases, the costs of on-site health services, as well. These costs to companies are passed along in higher prices for goods and services and in lower wages.

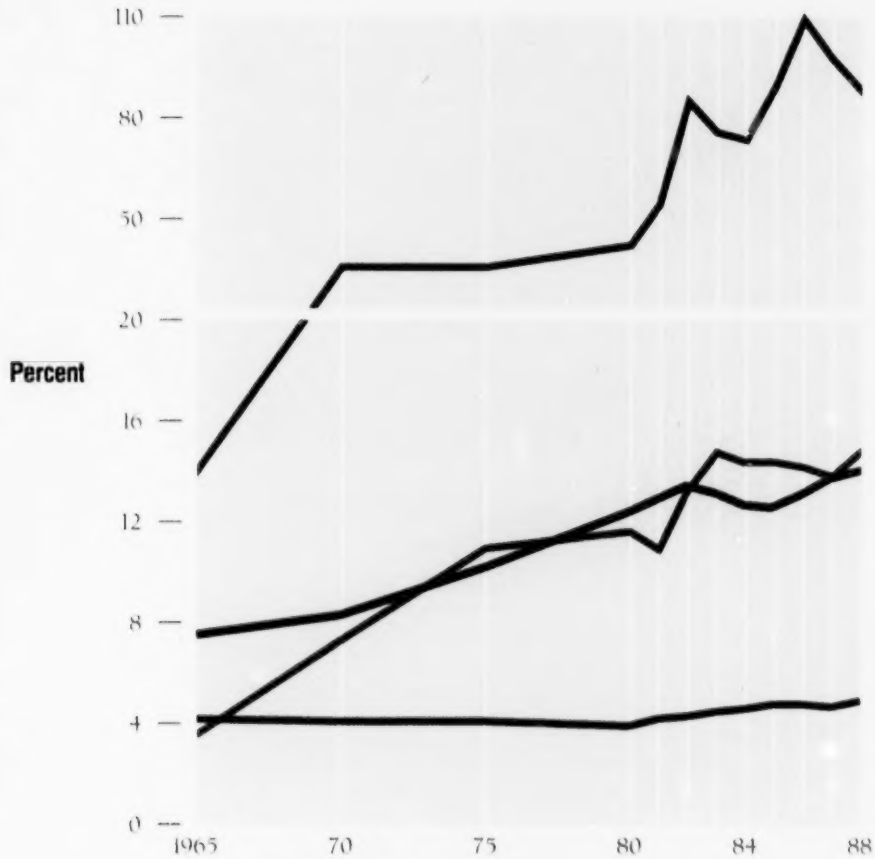
Likewise, for the federal government, the burden of health care costs more than tripled between 1965 and 1988, from 3.5 percent to more than 14 percent of government receipts (mostly taxes and fees, and excluding Social Security); for state and local governments during the same period, health costs nearly doubled, from 7.5 percent to 14 percent. Increased tax revenues, as well as a slowdown in government-paid expenditures, helped stabilize public outlays for health care after 1982.

For the most part, consumers have been buffered from the impact of rising health care costs until recently. The proportion of personal income spent on health services and supplies long hovered around four percent, although slight increases began in the 1980s. Now, employees increasingly are being asked to pay higher deductibles and a bigger share of health insurance premiums. The five percent average for personal income spent on health care in 1988 masks the considerably higher proportion of income spent on health care by some Americans, particularly the elderly.

Ultimately, we should remember that consumers *do* pay for rising health care costs indirectly through higher taxes, higher prices for other goods and services and stable — or even reduced — wages and salaries.

48. Expenditures for Health Services and Supplies

in Relation to Personal Income, Government Receipts and After-Tax Corporate Profits, Selected Years, 1965-1988



SOURCE
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◆ The Burden of Health Expenditures

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_____	_____	contribute to my general knowledge
_____	_____	be something I share with others

Excellent	*Good*	*Fair*	*Poor*	CHARTS:
_____	_____	_____	_____	easy to understand
_____	_____	_____	_____	interesting
_____	_____	_____	_____	timeliness of data

Comments on CHARTS: _____

Excellent	*Good*	*Fair*	*Poor*	TEXT:
_____	_____	_____	_____	clear
_____	_____	_____	_____	balanced
_____	_____	_____	_____	interesting

Comments on TEXT: _____

Excellent	*Good*	*Fair*	*Poor*	OVERALL:
_____	_____	_____	_____	selection of topics
_____	_____	_____	_____	appearance
_____	_____	_____	_____	ease of use

Comments OVERALL: _____

My principal job responsibilities are:

_____ patient care	_____ policymaking
_____ communications	_____ administration/management
_____ research	_____ student
_____ other: _____	

My employer is

_____ health care organization	_____ government
_____ corporation/business	_____ educational institution
_____ media	_____ philanthropy
_____ library	
_____ other: _____	

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_____ library	
_____ other: _____	

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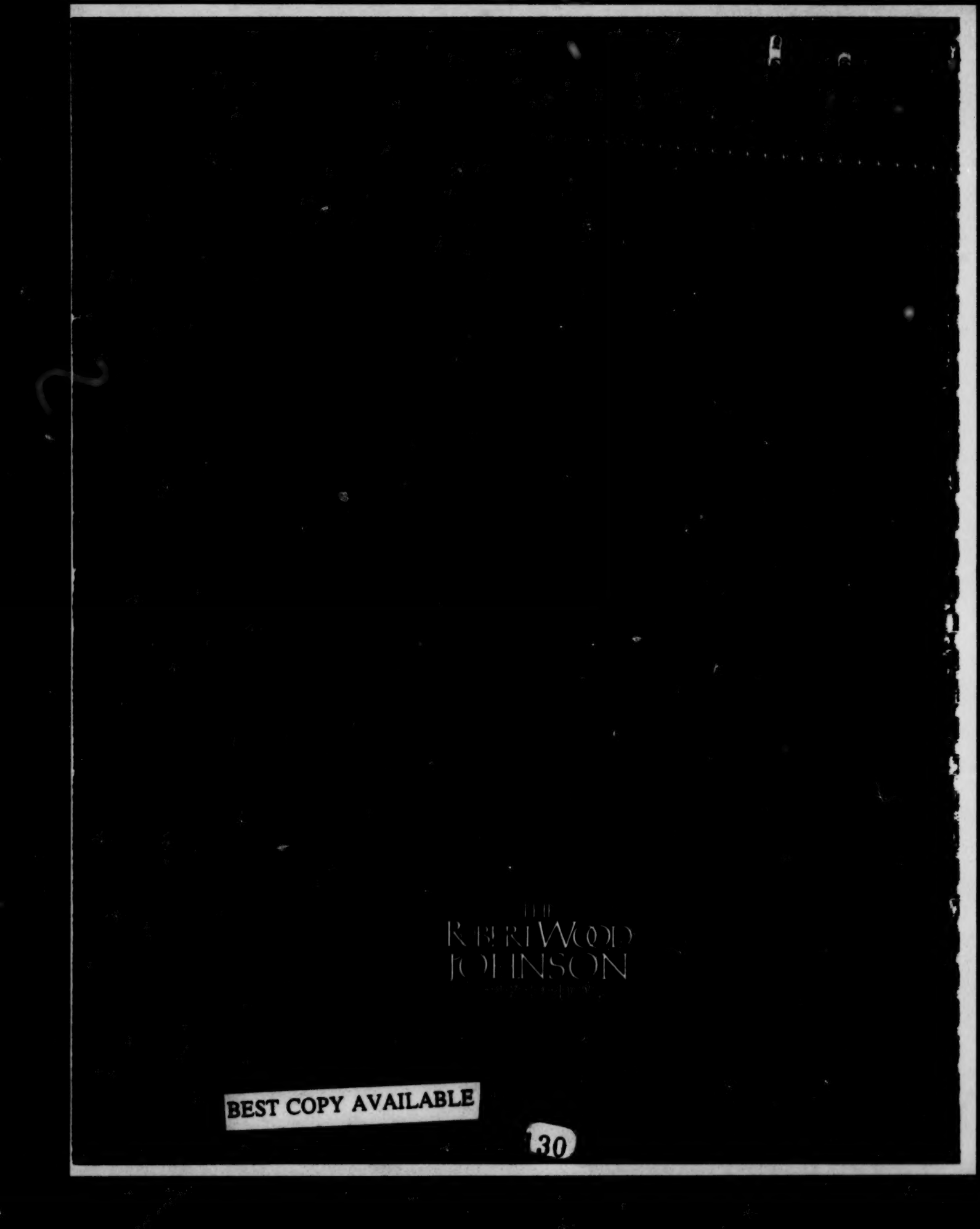

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